

CASTLES AT WAR



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CASTLES OF THE NORTH I

Edited by
The Danish Castle Research Association
“Magt, Borg og Landskab”



2015

DR. RUDOLF HABELT GMBH • BONN

CASTLES AT WAR

Edited by
Rainer Atzbach
Lars Meldgaard Sass Jensen
Leif Plith Lauritsen

The Danish Castle Research Association

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Interdisciplinary Symposium 2013



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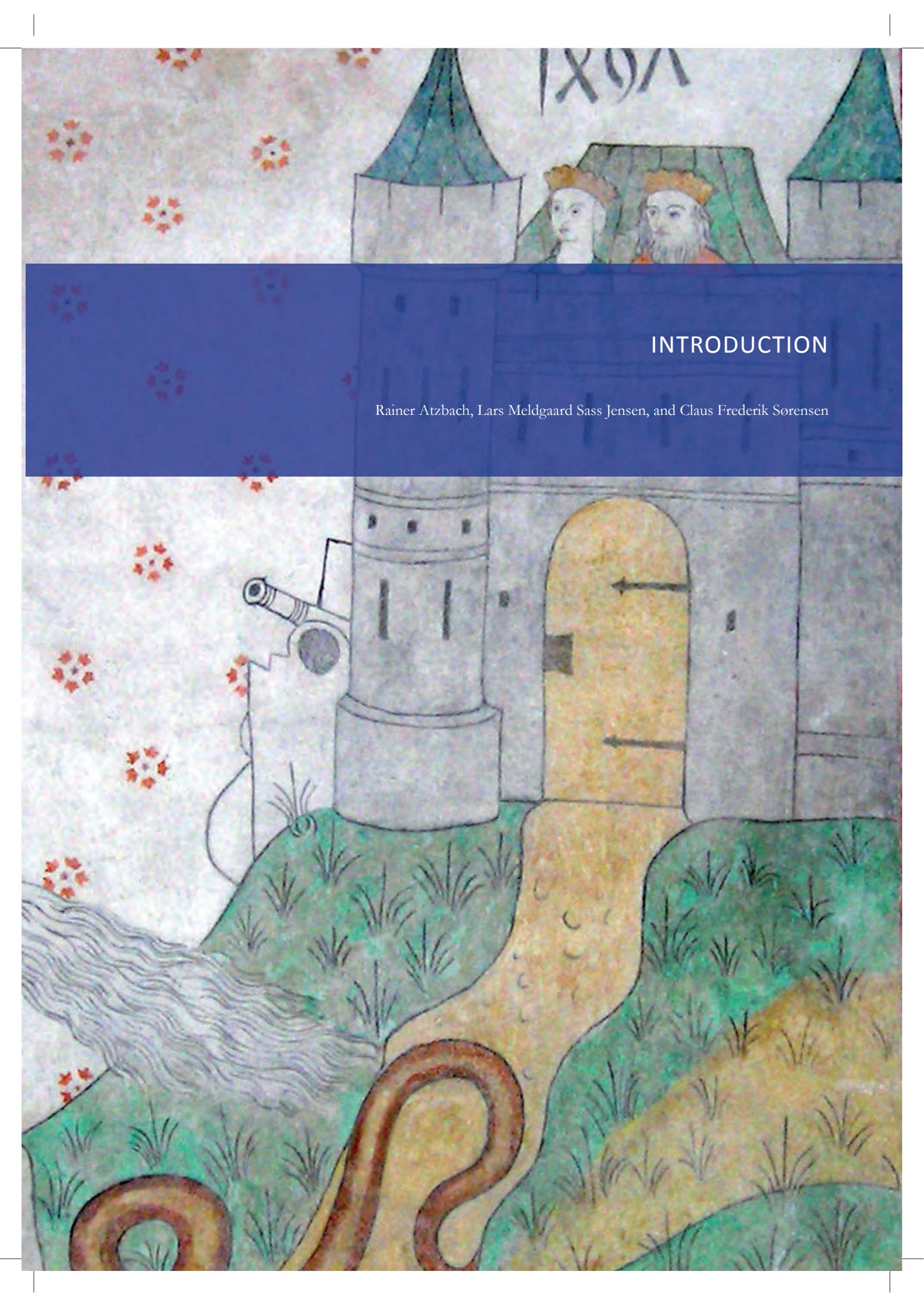
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A medieval manuscript illustration of a castle. Two kings, wearing crowns and having beards, stand on the battlements of a stone castle. The castle has green conical roofs on its towers. The background is a light blue sky with red star-like patterns. A large, stylized number '1898' is visible in the upper right corner. A dark blue horizontal band across the middle of the image contains the title 'INTRODUCTION' and the authors' names. Below the band, the illustration continues with a large stone tower, a yellow arched doorway with two black arrows pointing left, and a winding path leading to a rainbow in the foreground. The landscape is green with stylized grass and a wavy line representing a river or stream.

INTRODUCTION

Rainer Atzbach, Lars Meldgaard Sass Jensen, and Claus Frederik Sørensen

INTRODUCTION

This anthology is the first volume of the new series “Castles of the North” published by the Danish Castle Research Association “Magt, Borg og Landskab” (Power, Castle, and Landscape). This series will address papers and other contributions about current research questions concerning Danish and Northern Castles from a European perspective. The Association seeks to explore all aspects of power, castle and landscape in the medieval Realm of Denmark including large parts of Northern Europe and specially the Baltic. It unites castle researchers from Denmark, Sweden, and Germany during the seminar “Borgforskerforum” which is held each year in the Scandinavian languages.

Moreover, the association is going to organize an international conference every second year. Its aim is to put the archaeology and history of the castles in the former Danish realm into a wider and international context, since both Danish and Scandinavian history can only be understood as the Northern part of European culture in the Middle Ages and the younger periods.

This volume is the result of the first international and interdisciplinary symposium held at Nyborg Castle April 29th-30th 2013, its topic was “Castles at War” in particular during the period AD 1000–1660.

For the last 20 years, archaeological and historic research has dealt with many aspects of castles, their function as a noble family’s seat, their role each as an administrative unit’s centre, their relevance for trade, craft and consumption, the geographical, typological, and structural appearance of individual castles, and last but not least the castles’ symbolic meaning.

Beyond this, the oldest and most prominent function of a castle has tended to be neglected in scholarly discourse: its strategic and tactical function as a military stronghold that played a central role in the political strategies of the ruling European elite. Even as a threat of force, a castle had the potential to structure a conflict or to structure the rule of a region. This role of castles in medieval warfare has long been considered to be a topic primarily for a narrow circle of specialists in military history and archaeologists interested in loop-holes and mining technique. However, the picture has been changing, and both historians and archaeologists have started to recognize the critical relevance of strongholds, castles, earthworks, and redoubts in warfare.

The symposium was supported by the Danish Agency for Culture, Letterstedska Föreningen, and the research programme “Materials, Culture and Heritage” at the School of Culture and Society, Aarhus University. Scholars from Denmark, Germany, Latvia, Norway, Poland, Sweden, and the United Kingdom gathered to discuss their approaches to archaeological and historic sources with a focus on the political and military aspects of Northern European castles in medieval warfare. The symposium was divided into sessions encompassing the following general topics:

- The role of castles in political strategy
- Military aspects of castle construction
- Siege as one of the most important elements of medieval warfare.

This volume collects the contributions to that symposium and two additional papers by Jan Kock and Jesper Hjerminde. Their

Previous page: Detail from ‘St. George fighting against the dragon’, mural in Aarhus Cathedral (photo: K. Atzbach).

range encompasses “The role of castles in political strategy” in the first part including studies that explore the development of fortifications in general. The second part, “Castles during warfare and sieges”, presents case studies about individual sieges, weapons, instruments, and strategies of warfare during the period under consideration. Here, a new light is shed on the significant role of non-descript and unimposing earthworks being a part of a besieger’s strategy to cut off a castle under siege from communication and supply.

We have to thank all authors for their contribution and their constructive, engaged and fruitful cooperation with our board of referees in a process of open peer review. Here, the editorial team was kindly supported

by an international group of specialists in castle research. In alphabetical order, these included Kirstin Eliassen, Nils Engberg, Vivian Etting, Martin Hansson, Christofer Herrmann, Carsten Jahnke, Anna-Elisabeth Jensen, Vivi Jensen, Kerstin Söderlund, Claus Frederik Sørensen, Olaf Wagener and Dorthe Wille-Jørgensen. The process of refereeing did not only reassure the scholarly state of the art but also sought to stress the Scandinavian dimension of papers.

Finally, we have to express our deepest gratitude to Her Majesty Queen Margrethe II’s Archaeological Foundation, Farumgaard-Fonden, and Letterstedtska Föreningen for their generous support that enabled the prepress and production of this volume.

Nyborg and Aarhus, in summer 2015

Rainer Atzbach

Lars Meldgaard Sass Jensen

Claus Frederik Sørensen

On behalf of the editorial board
and the Danish Castle Research Association
”Magt, Borg og Landskab”

PART I: THE ROLE OF CASTLES IN POLITICAL STRATEGY

CASTLES OF THE POLISH NOBILITY: A CASE STUDY ON THE
BASIS OF THE FAMILY KONIECPOLSKI OF POBÓG

Aleksander Andrzejewski and Leszek Kajzer



CASTLES OF THE POLISH NOBILITY: A CASE STUDY ON THE BASIS OF THE FAMILY KONIECPOLSKI OF POBÓG

Aleksander Andrzejewski and Leszek Kajzer, Poland

ABSTRACT

The paper will discuss a selection of architectural foundations made by the family Koniecpolski of Pobóg in the periphery of the central European castle region. The first documented Koniecpolski fortification belongs to the European stronghold type “chateau à motte” and was built in the late Middle Ages. Later the Hetman Stanisław (about 1592–1646) erected the perfect renaissance townplan of Brody and the “pałac w forcie” at Podhorce (now both in Ukraine). The last building under consideration is the baroque palace of Chrzastów. So we will show the changes in defensive architecture from the mid-15th century to the late 17th century in terms of a Polish interpretation of central European architectural motives.

I
In the thousand-year history of Poland, there have been distinct differences between our history and the rhythm of development characteristic of other European countries. A relative weakness of the royal power was one example. The kings' weakness resulted from their financial problems, which largely stemmed from their limited income. As a matter of fact, there were only two genuinely wealthy rulers in Poland's history. The first one, King Casimir III the Great († 1370), was the last representative of the Piast dynasty on the Polish throne. A significant limitation of the size of the royal domain was the cost of introducing the Jagiellonian dynasty to Poland following his death. In consequence, the representatives of the new dynasty found

themselves in reduced circumstances. The royal domain was re-enriched no sooner than in the 16th century, when the last ruler of the house of the Jagiellons, Sigismund II Augustus († 1572), took back the royal estates exploited illegally by the elite. The fact that the consecutive Polish rulers of the 17th and 18th centuries were elected kings was hardly conducive to their wealth. Given the weakness of the royal power, the rulers played a minor role in the foundation processes. In the country of poor rulers, it was the late medieval noble elite that was affluent. In the modern period, they were replaced by the class of magnates, called the magnate oligarchy. The kings' relinquishment of their leadership in the field of architectural and artistic investments resulted therefore in an increase in the importance of noble clans and families.

*Previous page: Palace
in Podhorce (photo:
A. Andrzejewski).*



In this paper we shall focus on the Late Middle Ages and the Early Modern Period, until the mid-17th century. At the time, as a consequence of the Swedish invasion and multitudinous wars, a devastated Poland suffered a demographic and economic collapse without regaining its position until the loss of independence in the late 18th century. Here, we will address the issue of architectural investments of the elite of particular periods, as exemplified by the history and activity of one selected family.

This paper is intended to discuss the chosen architectural investments by selected representatives of the purposely chosen family, i. e. the Konięcpolskis of the Pobóg family. This triple restriction is essential here, since a comprehensive discussion of the foundation activity by numerous representatives of several generations of the Pobóg, and then the Konięcpolski family would require several volumes. As mentioned above, our narrative will end in the mid-17th century. The last Konięcpolski, whose

foundation activity we will discuss, must be therefore treated as the most prominent representative of the family, or Grand Crown Hetman (from 1637 – Prince) Stanisław Konięcpolski († 1646). In view of the extent of the topic and the limited size of the text, we shall focus on the buildings that fall within the category of *militaris et civilis* architecture, while the church architecture, which deserves a separate paper, shall be only referred to briefly.

II

The Pobóg coat of arms (Fig. 2), showing “gules, a horse-shoe argent with a cross formée of the same charged on the edge of its arch”, is probably one of the oldest Polish coats of arms. Although, its earliest known representation on the seals dates back not earlier than to 1396. In 1403, it was mentioned in a written document (Szymański

Fig. 1. Places mentioned in the text (drawing: K. Atzbach).



Fig. 2. Podborce; top of the gate of the *fortalicium* with the Pobóg coat of arms (photo: A. Andrzejewski).

1993, 222). Most historians believe that it was Jakub, the Voivode of Sieradz († 1430) who founded the puissance of the Koniecpolskis. Jakub belonged to the leading supporters of Władysław Jagiello's accession to the Polish throne. It was then that Jakub identified himself as of Koniecpol, and from that village their name descended. The family is believed to have subsequently moved their seat to Chrzastów, located opposite Koniecpol – on the other bank of the River Pilica, in the Sandomierz land (Szymczakowa 1998, 29–62; Zawitkowska 2005). Nowadays, Chrzastów and Koniecpol make up one settlement divided by the river.

In fact, historical research makes it possible to track back the history of the family far earlier. Komes Mściwój († 1250), considered the original progenitor of the Pobóg family, could have been a son or grandson of an unnamed crusader. That unknown ancestor of the discussed family, brought back from the Holy Land (perhaps in the third quarter of the 12th century) relics of the Holy Cross and founded the church under that dedication in the Old Town in Łęczycza, mentioned no earlier than 1235 (Wyrozumski 1977, 231–232; Sikora 1983, 5ff; Kajzer 2010, 11–26). Little is known about the residences of the early representatives of the Pobóg family, who presumably lived in appropriate conditions by virtue of affiliation to the elite in the strictest sense of the word. Nevertheless,

it is common knowledge that besides the unidentified abode in Koniecpol, Jakub maintained a house in Cracow (Kraków) and also dwelt in the royal castles in the centres of *starostwa* (crown lands) he administered. The sons of Jakub: Jan, Chancellor of the Crown († 1455), commonly called 'Tasza' and his brother Przedbór, Castellan of Sandomierz († after 1460), are supposed to have lived in Koniecpol, in a fortified residence mentioned in 1463 and described as *fortalicio et curia* (Zajączkowski 1980, 315–329; Zawitkowska 2005). Notwithstanding a lack of any information on its form, we can assume that it resembled "motte-type" residence in Koniecpol Stary, with the court buildings and/or a keep situated on a mound-shaped raised earthwork. Whether this fortified residence was erected already by Jakub, or later by one of his sons, remains unknown.

Therefore, the first abode of the Koniecpolskis mentioned in written sources can be affiliated with the pan-European tradition of the *château à motte* type castles (Fig. 3). In the late Middle Ages, the family possessions consisted of several rural estates. Apart from the already mentioned property around the centre of Koniecpol and Chrzastów, on the other side of the River Pilica a second complex was situated in the vicinity of the village of Wielgomłyny. Here, the Koniecpolski family founded a Pauline Monastery and a church intended as their family sepulture and *memoria* (Wiesiołowski 1985, 154–155; Kłoczowski 2010, 223–224). A third complex was located in the area of Rusiec, the Sieradz Province. The centres of all these estates must have included manorial buildings, although they have remained unidentified. The motte-type residence in Koniecpol was subject to archaeological research, albeit of modest scope, and has never been completely published in the context of the entire settlement complex (Pyzik 1971, 234–235; Pyzik 1992, 229–239). Therefore, our knowledge of the late medieval architectural and building foundations of the Koniecpolski family

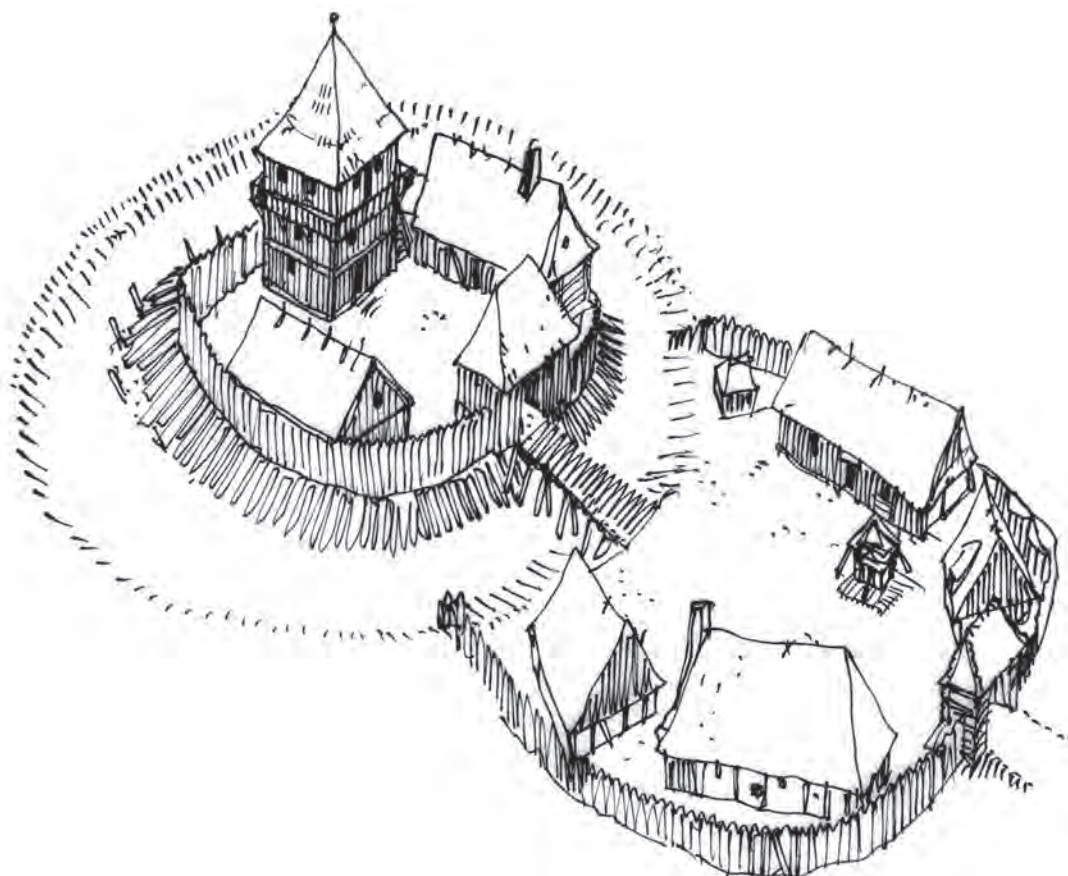


Fig. 3. Reconstruction of a *château à motte* residence (drawing: J. Salm).

is very modest and does not comply with knowledge of their position and possibilities.

III

We are far better acquainted with the building investments of the Koniecpolski family in the 16th and the first half of the 17th century, even if in the second half of the 15th and in the early 16th centuries the family experienced a crisis and lost its earlier position of prominence. Their position was restored by two brothers who lived in the mid-16th century: Stanisław Przedbór († 1588), the Castellan of Sieradz (Fig. 4 and 5) and Mikołaj Przedbór († after 1587), the Castellan of Rozprza. According to the data compiled by L. Kajzer, J. Augustyniak and W. Gliński (Kajzer and Augustyniak 1986, 132–133; Gliński 2000, 145–154), the presence of a

fortalicium was recorded in Chrzastów in 1540, albeit we do not know anything either about its aspect, a possible founder or whether it was already erected in the 15th century or later.

The territorial context of the two settlement sites by the River Pilica seems noteworthy. In urban and functional terms, Koniecpol is a town with a market square and a magnificent early Baroque church, enclosed in defensive walls – built on the initiative of Hetman Stanisław Koniecpolski. Chrzastów, situated on the right bank of the Pilica, on the site of Sandomierz, is a settlement accompanying a large palace and park complex, first belonging to the Koniecpolskis and then to other families, and to the Potocki family until the World War II. The field research at the complex will be addressed below. The above-mentioned situation suggests that, at least in the 15th century, the residence of the Koniecpolski family was located on the left bank of the river, in the

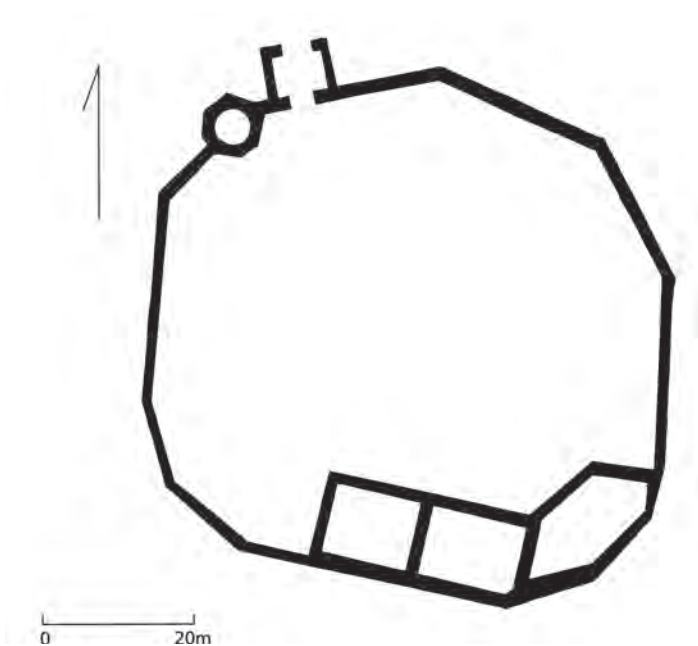


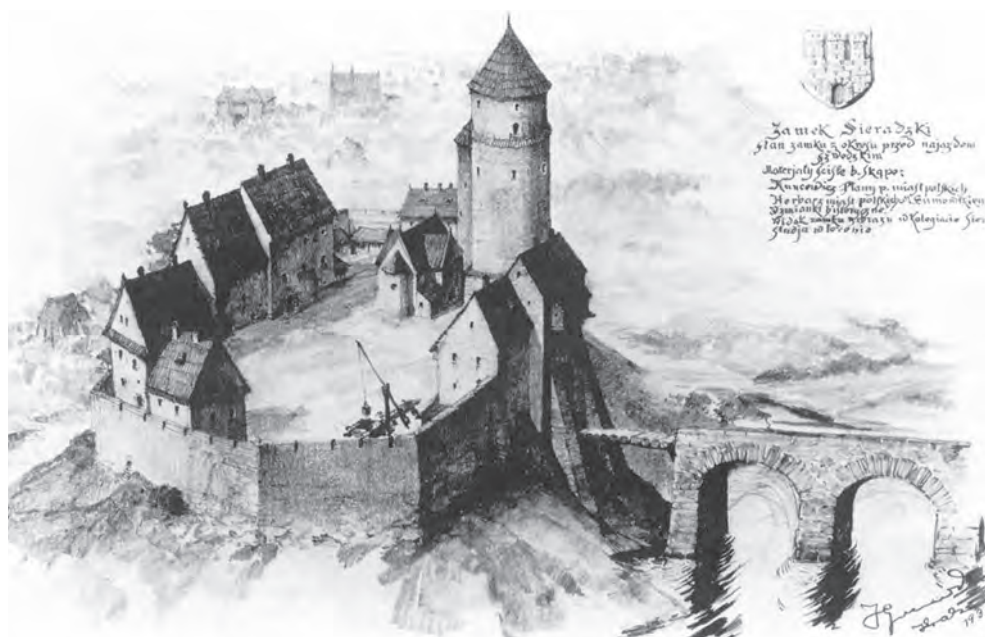
Fig. 4. Sieradz;
plan of the castle
(drawing: J. Salm).

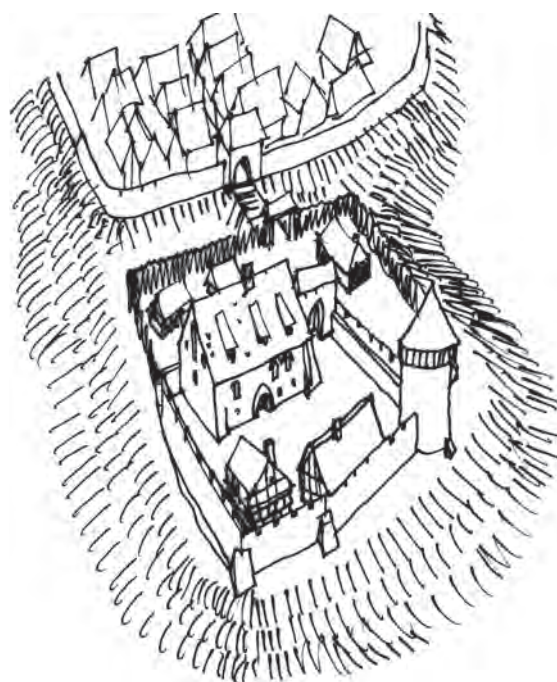
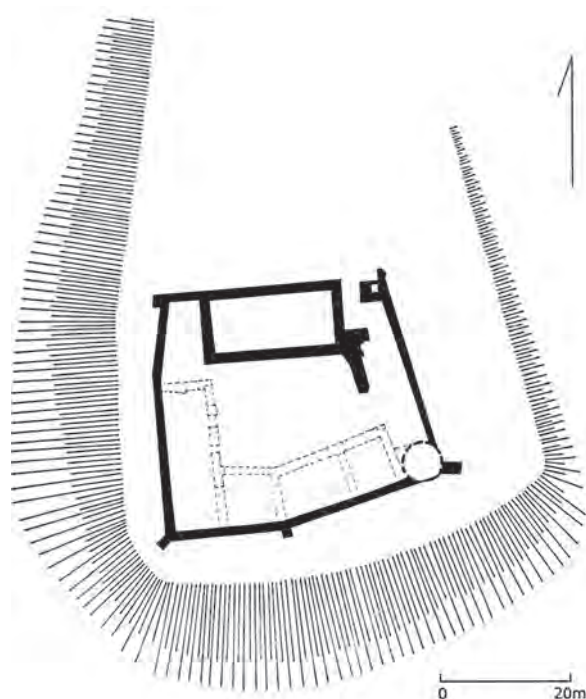
Sieradz Province, to be subsequently moved to the right bank of the Pilica, while the parish church and the town remained on the Sieradz side.

The 16th century was in Poland not only the time of the aforementioned exchange of elites but also it was a period of great prosperity. A large number of splendid buildings was erected at the time, mostly the structures on the borderline between

militaris and *civilis* architecture. The most active founders worth mentioning here were represented by the son of Mikołaj Przedbór, Andrzej, the Castellan of Polaniec (until 1615) and the son of Stanisław Przedbór, Aleksander († 609). In 1578, Andrzej married Anna Ligeza and with her hand he came into possession of the village of Przeclaw near Mielec. In 1536, a *castrum* already existed there, but the form of this – probably wooden – structure remains unknown. Circa 1580, Andrzej, who already signed his name ‘of Przeclaw’, commenced building his seat there. A three-storey, detached brick manor house with roof with a sunken truss and an attic was erected on a rectangle plan, on the ground floor symmetrically divided into three chambers, and with a large hall on the first floor. Such Renaissance mansions were relatively common among the elite in the broad sense of the term, and the representatives of the ‘new landed gentry’ (*szlachta*) which was joining the elite. The manor house in Przeclaw may be considered fairly typical, and only the early implementation of the matutinal Baroque symmetry of blocks, and internal divisions might draw attention. In the second quarter of the 17th century, the building was subject

Fig. 5. Sieradz;
reconstruction of the
castle (19th century
lithograph by Jan
Gumowski).





to quite typical changes, when a tri-arcade loggia was added to its gable (Teodorowicz-Czerepińska, Augustynek 1972, 193–203).

Aleksander, Voivode of Podole and then Sieradz, perhaps was an even more remarkable investor. Two buildings are attributed to him, albeit one of them, located in Kruszyn near Częstochowa – a village which belonged to the Koniecpolski family already in the 15th century – in fact, might have been erected by his father Stanisław Przedbór, but this assumption seems rather less likely. Admittedly, M. Brykowska (2006, 341) dates the structure to the mid-16th century, which would rather point to the father as the instigator. What we do know is that a Koniecpolski there erected a brick manor house on a heavily raised earthen mound surrounded by a moat. Its remains, still visible today, were later incorporated in the early Baroque palace structure of Aleksander's brother-in-law Kasper Denhoff (Kajzer 1984, 77–78). It was 'an 11 o'clock oriented' house, erected on a plan of a short rectangle (14.3 x 18.7 m), divided into two chambers on the ground floor. Elevated and

moated, the house was evidently defensive in nature, yet the Voivode apparently did not entirely trust its advantages, since in his will he recommended his wife Aleksandra that in case of danger she should seek refuge elsewhere, namely in the tower manor house in Rusiec, acquired by the Koniecpolskis from the Korycińskis (Przyłęcki 1842, 218).

Another Aleksander Koniecpolski's abode was recently identified, which he did not manage to finish before his death – a palace-fortification in Chrzastów. It was preliminary excavated in the years 2008–2009, hence it is not very well known. It was established at the site of some undetermined earlier structure, which can be related to (circumspectly and only by intuition) the *fortalicium* mentioned in 1540 (Andrzejewski, Kajzer, Olszacki 2010, 239–246; Andrzejewski, Kajzer, Nierychlewska, Olszacki 2012, 123–132). Aleksander's residence included an early Baroque palace, to a large extent resembling the one we can see today (Fig. 8), located in a very interesting defensive rectangular perimeter, 50 x 100 m in size. The garden façade of the palace constituted its northern

Fig. 6. Brześć Kujawski; plan of the castle (drawing: J. Salm).

Fig. 7. Brześć Kujawski; reconstruction of the castle (drawing: J. Salm).

Fig. 8. Palace in Koniecpol: photo of the front elevation (photo: A. Andrzejewski).



Fig. 9. Koniecpol; plan of the palace based on field research (drawing: A. Andrzejewski, L. Kajzer and T. Olszacki).

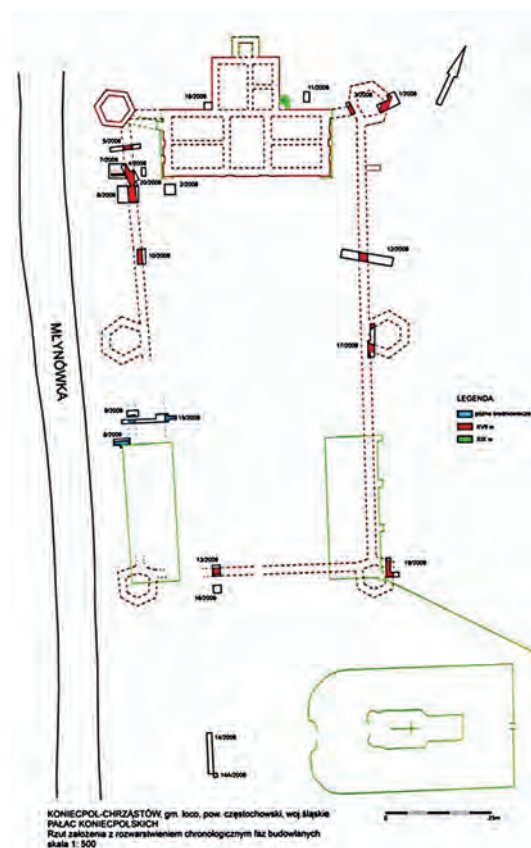
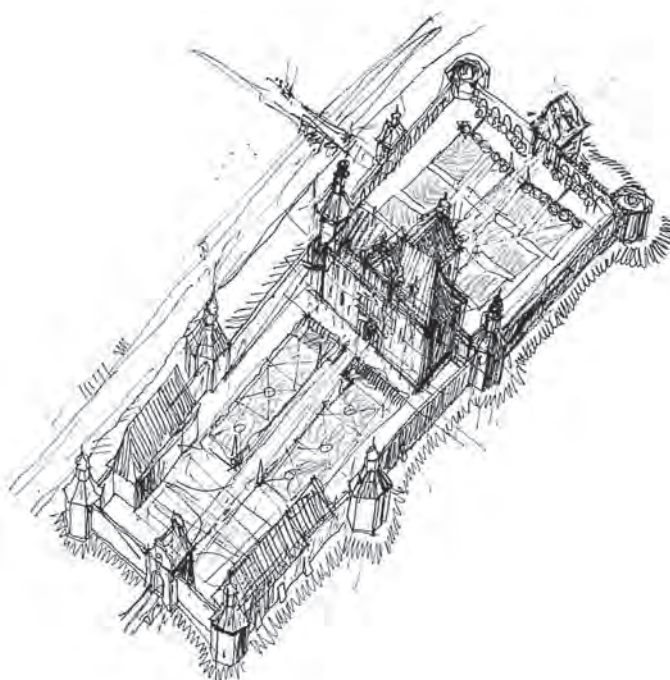


Fig. 10. Koniecpol; reconstruction of the palace (drawing: J. Salm).



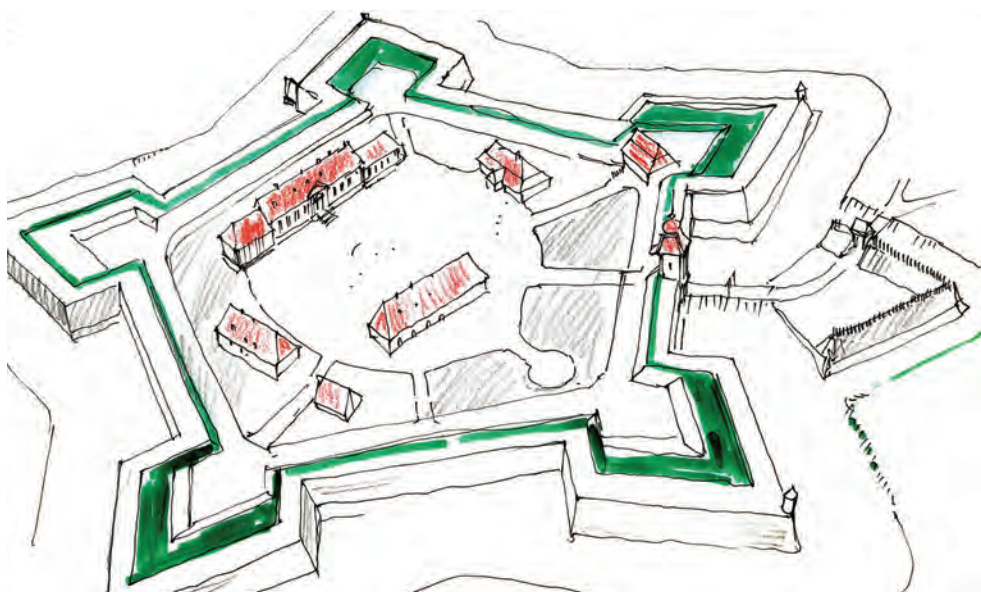


Fig. 11. Brody;
reconstruction of the
fortress (drawing:
J. Salm).

curtain wall. Hexagonal bastille-type towers were placed on the corners of the rectangle and in the middle of longer curtains, while the gate was situated at the axis of the southern curtain wall. Evidently, it was a regular bastille-type structure with a palace, well within the patterns of modern European castles with actively flanked corners, typologically somewhat earlier than the structures of *palazzo in fortezza* type (Fig. 9, 10).

IV

The foundation activity of Hetman Stanisław (c. 1592–1646), son of Aleksander who was discussed above, is a matter worth characterizing in a separate section. Stanisław received all possible honours in his life. He did not only hold the office of the Grand Crown Hetman (i. e. the Minister of War), but was also the Voivode of Sandomierz and the first dignitary in the country, namely the Castellan of Cracow. Nonetheless, he was more of a soldier and an outstanding commander than an official. At the same time, due to his ownership of the grand estates in the south-eastern borderlands of the Republic of Poland, he was regarded one

of the most affluent ‘borderland kinglets’, the largest magnates whose domains lay in the acres of the nowadays’ Ukraine (Podhorecki 1978; Besala 1983) (Fig. 11).

Between 1635 and 1640, a *palazzo in fortezza* type structure, perhaps the most splendid of its kind in the Polish architecture, was erected in the centre of Hetman’s Ruthenian goods, in Podhorec (Fig. 12). On the northern part of this four-bastion square fortification, a grand early Baroque palace was built, with its corner pavilions – avant-corps on the garden elevation – placed on bastions. Regarded by researchers as important for the history of Polish architecture in view of the breadth of

Fig. 12. Podhorec;
plan of the palace
(Collection of the Art
Institute of the Polish
Academy of Sciences).

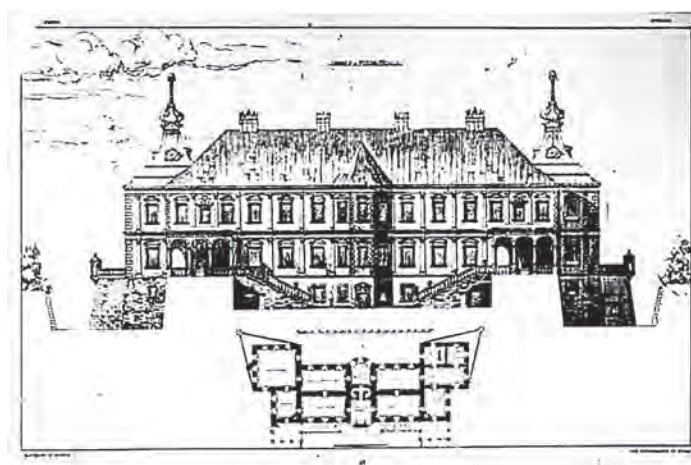




Fig. 13. Palace in Podhorce, photo of the front elevation (photo: A. Andrzejewski).



Fig. 14. Palace in Podhorce, photo of a fragment of fortifications (photo: A. Andrzejewski).



the idea and excellence of its embodiment, Podhorce also documents the most critical moment of the evolution of modern residences, shaped in the conditions of clash between the French and Italian patterns (Bania 1981, 97–168) (Fig. 13–16).

The latest Hetman's building project was his palace in Warsaw, uncompleted until his death. Built on the 'H' plan, with corner avant-corps which jut out from both sides, the structure was erected on the Vistula (Wisła) escarpment, arranged in the form of a regular Italian garden. Having lost its significance following Hetman's death, the palace was re-built several times afterwards. After World War II, it provided the seat for the Council of Ministers, and currently serves as the Presidential Palace (Bania, Jaroszewski 1980). The above described structures are just examples of the list of Hetman's foundations, who, besides a fortified church in his ancestral Koniecpol, where he subsequently was buried, erected a number of fortifications – mostly in the south-eastern reaches of the state (Fig. 16).

Needless to say, Stanisław Koniecpolski was not only the first soldier and official of the Republic of Poland in the first half of the 17th century, but also an extremely active founder. Noteworthy is the fact that all architectural works created on his initiative presented the highest artistic level. In addition, he was the last 'great Koniecpolski'. His son Alexander was only Grand Standard-Bearer of the Crown, and his grandson Stanisław († 1682), even though the Castellan of Cracow, died childless.

Fig. 15. Palace in Podhorce, photo of the garden elevation (photo: A. Andrzejewski).

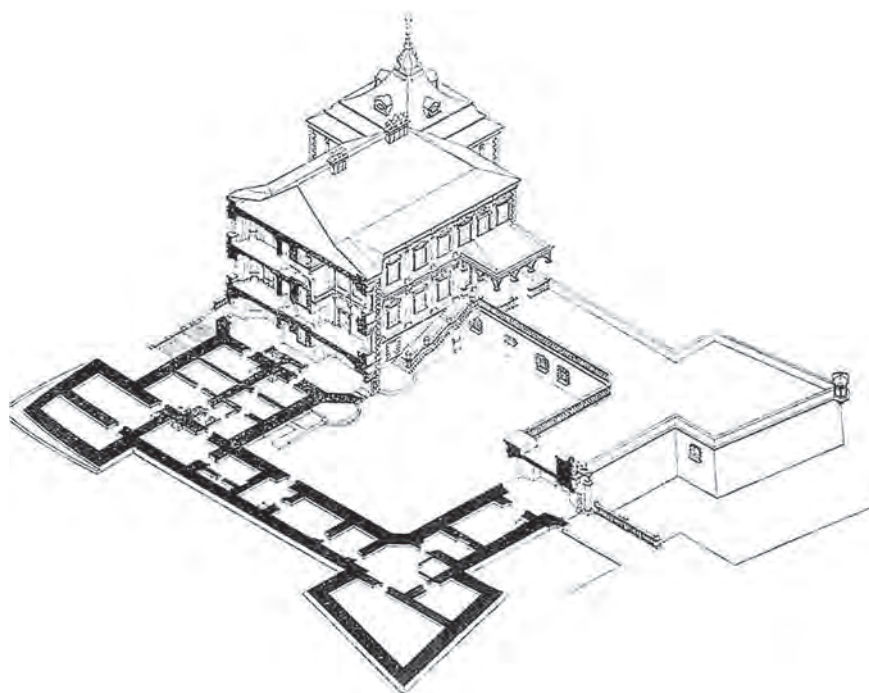


Fig. 16. Podhorce;
reconstruction
of the palace
and fortifications
(Collection of the Art
Institute of the Polish
Academy of Sciences).

V

The most important early modern dwellings and fortresses, which belonged to the Koniecpolski family described above were: Andrzej's from the years c. 1580s, Aleksander's from the turning of the 16th and 17th centuries, and Hetman Stanisław's from the first half of the 17th century, they should be discussed against the background of potential war looming over the Polish lands at that time. At the fall of the 16th century, the elite of the Polish society did not have a sense of any serious threat. Thus, not by chance, Andrzej's foundation in Przeclaw was a manor house, which guaranteed its dwellers safety but not a defensive castle.

The defensive characteristics – a manor house built of stone on top of a mound-shaped raised earthwork surrounded by moat, are clearly visible in Aleksander's foundation in Kruszyn. However, it may be presumed that it was the case of manifestation of the archaic ideas rather, reaching the traditional medieval *motte* dwellings, than a reflection of the real needs. The Polish-Muscovite Wars waged at the decline of 16th century,

although taking place on the lands of today's Latvia and Estonia, caused that the outside dangers become closer to the Polish elite. The abode in Chrzastów, whose construction was commenced by Aleksander, is a testimony to those still relatively distant dangers. It resembles a European bastille-type castle, perhaps in particular – a residence belonging to the Habsburg family in Vienna, called *Neue Hofburg*. Some variants of this type were also used throughout the Polish lands at the decline of 16th and the beginning of the 17th centuries.

The political and military situation of Poland in the first half of the 17th century, and particularly – in its second quarter – was substantially different. From the north, Rzeczpospolita was endangered by Sweden, from the east – by Moscow pushing forward, and from the eastern-south – by the Turkish Ottoman Empire. The wartime demanded buildings corresponding with the latest European *militaris* trends. The both great foundations of Hetman Stanisław should be therefore treated as such: the walled town of Brody (Fig. 11) conjoined with a private fortified residence, and the *palazzo in fortezza*

Fig. 17. Hetman
Stanisław
Koniecpolski
(engraving by Anton
Tepplar after a
painting by Martino
Altomonte, National
Museum in Warsaw).



structure in Podhorce (Fig. 14). Stanisław (Fig. 17) was not only a soldier but also a dignitary and hence the magnificence of his palace in the capital of Warsaw. Essentially, the architectural foundations of the Koniecpolski family discussed here constitute a specific interpretation of a “litmus paper”, illustrating the time of peace and war in Poland. The best recognized military episode pertaining the described foundations of the Koniecpolski family was the defense of Brody from the Cossack army in 1648, which was such a success that in the later years the stronghold was avoided by both the Tatars and the Turks.

VI

To conclude, it behooves us to undertake an overall assessment of the activity of the Koniecpolski family in the field of *civilis* and *militaris* architecture. Even though they certainly were members of the small magnate elite already in the late Middle Ages, this issue cannot be investigated further due to the lack of written sources. What we only know is that in their ancestral seat, in Koniecpol, the family lived in a fortified manor *château à motte* residence, like other elite officials. The position of Jakub and Jan as high state dignitaries suggests that they also dwelt in royal castles in the towns they were starosts of (Jakub in Brześć Kujawski, Fig. 6 and 7, and Jan in Łelów and Sieradz, Fig. 4 and 5).

Unfortunately, their 16th-century (?) fortalice in Chrzastów has not been identified. At least two Koniecpolskis erected brick manor houses in this century (in Przecław and Kruszyn). At the end of this century, Aleksander began the construction of a fortified residence in Chrzastów, finished by his son Stanisław who was, undoubtedly, the most prominent representative of the family. He should certainly be bracketed with a small group of the most interesting founders of architectures in Poland in the first half of the 17th century.

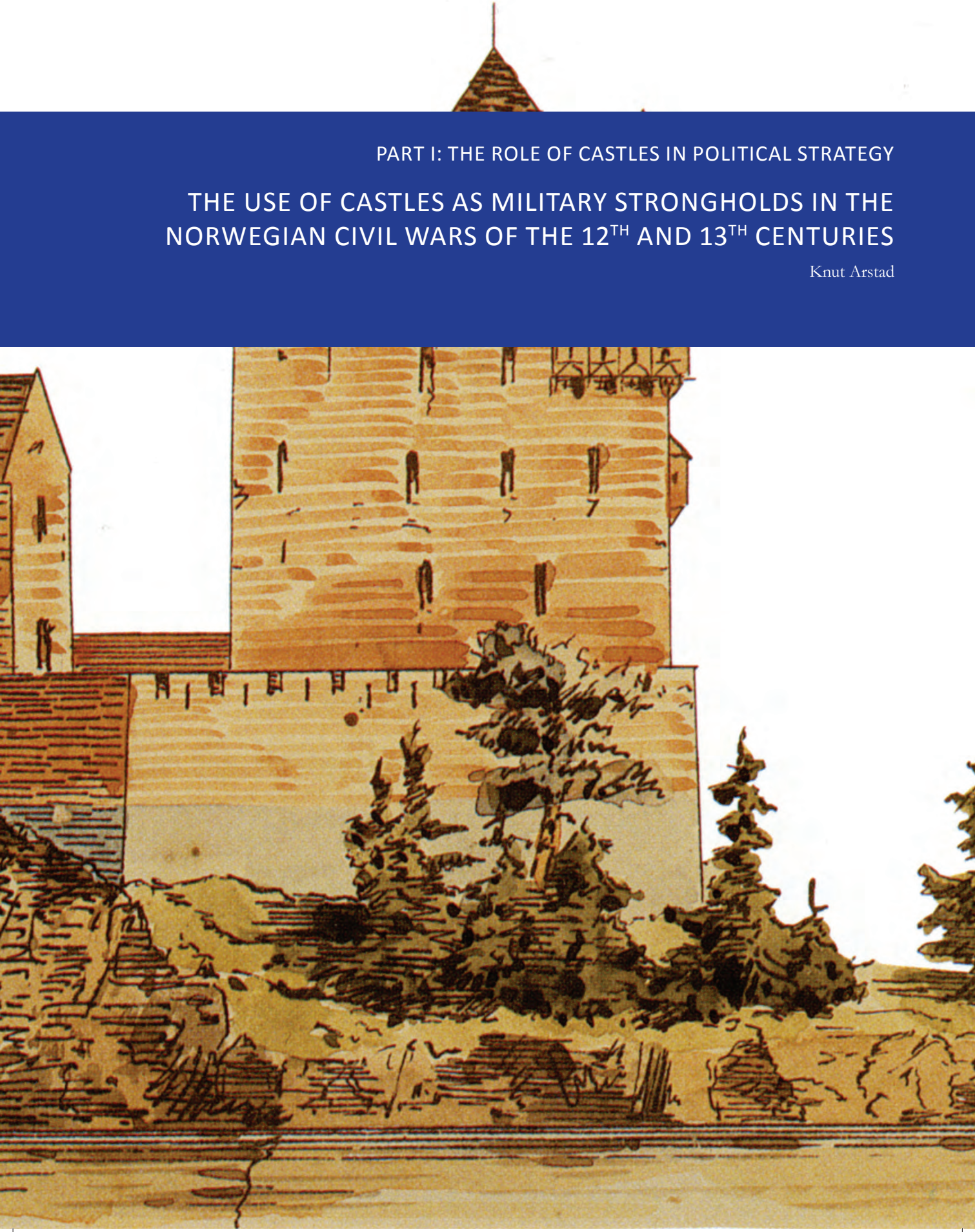
Were we to assess the foundation activity of the Koniecpolski family in the late Middle Ages and the Early Modern Period, we would say that while impressive, it fits in the upper limits of schemes of activity typical of the representatives of a small elite of this period.

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Aleksander Andrzejewski
 Leszek Kajzer
 Institute of Archaeology
 University of Łódź
 ul. Uniwersytecka 3
 90–137 Łódź
 Poland
 adaandrzejewska@op.pl



PART I: THE ROLE OF CASTLES IN POLITICAL STRATEGY

THE USE OF CASTLES AS MILITARY STRONGHOLDS IN THE NORWEGIAN CIVIL WARS OF THE 12TH AND 13TH CENTURIES

Knut Arstad

THE USE OF CASTLES AS MILITARY STRONGHOLDS IN THE NORWEGIAN CIVIL WARS OF THE 12TH AND 13TH CENTURIES

Knut Arstad, Norway

ABSTRACT

Many wars on the European Continent and the British Isles in the 12th and 13th centuries can be labelled Border Warfare. Wars fought under the Norwegian king's banner were of a very different nature. There were campaigns stretching from the Arctic Circle to the Danish border, and beyond. Obviously, warfare was not restricted to specific areas of dispute. During the early Middle Ages, and before the Civil War (1134–1240), the concept of strongholds was used only to a very limited degree in Norway. However, in the last quarter of the 12th century, a new element emerged. Stone castles were erected in important towns, such as Nidaros and Bergen. On the 6th of November 1239, Duke Skule Bårdsson was proclaimed King and rebelled against his son-in-law, King Håkon Håkonsson. Eastern Norway now became the main theatre of war. Here there were stone castles on islands in the Glomma River, Lake Mjøsa, and by the Oslofjord. What part did the castles play in Håkon's and Skule's strategies to win the country? In this paper, using this war as a case-study, I will discuss the use of Castles as military strongholds in the Norwegian Civil Wars. Due to the time available, the numerous non-military functions possessed by castles will not be discussed in this paper.

INTRODUCTION

It is my contention that, unlike in large areas of Europe, castles were not vital to Norwegian warfare in the 12th and 13th centuries. Earlier in the Middle Ages, the concept of strongholds was only used to a very limited extent in Norway. Exceptions were the burh Borg, presumably initiated by King Olav Haraldsson, later Saint, in the first half of the 11th century, and King Sigurd the Crusader's so-called kastala at Konghelle, possibly a motte-and-bailey structure, from

the first decades of the 12th century (Fischer 1951, 13–15, 25–27, 32–36).

During the first part of the Norwegian civil wars, which began with the battle at Fyrileiv on August 9th 1134, no castles were built. The central players all chose an offensive strategy, focusing mainly on defeating the enemy on the battlefield with the field armies being the primary weapon. the goal of which was decisively to defeat the enemy on battlefields with crowds of people as the primary weapon. The year 1137 is highly illustrative in this sense, when three great battles were

*Previous page:
Valdisbolmen
(drawing: Peter
Andreas Blix,
Wikipedia 2015).*

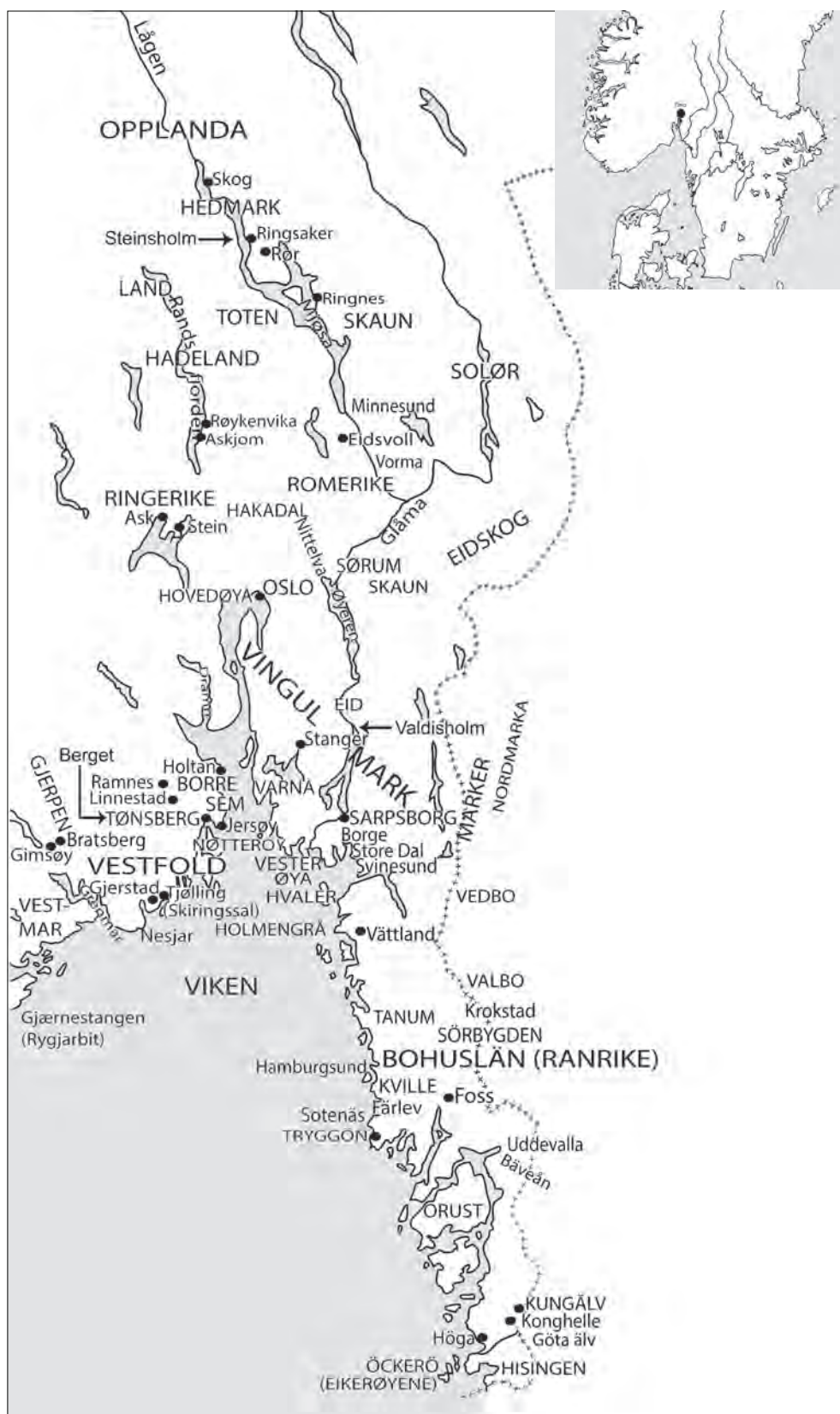


Fig. 1. The region of Lake Mjøsa in Eastern Norway (drawing: K. Atzbach after Hodnebo et al. 1979, 201).

fought in rapid succession: battle of Minne, just to the south of lake Mjøsa; battle of Krokaskogen in Ranrike (Bohuslän), and the naval battle at Hornborosundene by the coast of Ranrike. All of the commanders prioritised and preferred confrontation on the battlefield, either on land or at sea, and continued to do so in the years ahead (Arstad 2011a and 2011b).

However, with the usurper Sverre Sigurdsson, a new element emerged in the Norwegian civil wars in the last quarter of the 12th century: the use of permanent strongholds. During the course of his reign, Sverre built two stone castles – the first of this kind in Norway – one in Bergen and one just outside Nidaros, present day Trondheim (Lunden (1976) 1987, 104f.). In the interested of time, I have chosen exclude their part in warfare, except to say that neither of these castles were able to prevent the enemy from entering or residing in the nearby towns, much less from dominating the surrounding areas.

The same can be said of the first kastala built in Norway, the one just outside the border town Konghelle. Its lifespan was short, only 20 years, and it was taken by the enemy the very first time it was assaulted, during an attack by Wends, and was demolished together with the nearby town (Magnus Blindes og Harald Gilles saga 1979, 273–278). In other words, the experience of using strongholds in the 12th century did not set examples worthy of emulation. So, when the castles were demolished, Sion outside Nidaros in 1197, the castle in Bergen in 1207 and the one in Konghelle in 1135, they were not rebuilt. After the civil war was resumed in the second decade of the 13th century, however, the Birkebeiner party, under Sverre's grandson Håkon, built new ones: in the 1220s, the castle at Valdisholmen in Glomma River, the largest river in Norway, and the one at Steinsholmen in Lake Mjøsa, the largest lake in the country, in the 1230s. In addition, apart from the rebuilding of the castle in Bergen some time before 1232, castle Berget,

'the Rock', in Tønsberg, was reinforced quite extensive during these decades.

In the following, I will be examining the war between the Birkebeiner and the Vårbelger parties, 1239–1240, the last internal war and, in my opinion, quite illustrative of the use of castles as military strongholds in 12th and 13th century Norway. Finally, I will give a short account of the development that followed after the Civil War.

THE USE OF CASTLES AS MILITARY STRONGHOLDS DURING THE CAMPAIGN IN 1239–1240

On the 6th of November 1239, the Vårbelger Duke Skule Bårdsson was proclaimed King at Øretinget in Nidaros and rebelled against his son-in-law, King Håkon Håkonsson. When Håkon and his men learned of the rebellion, the Birkebeiner mobilised in Western, Southern and Eastern Norway. Both parties drafted their strategies to win the country. (Håkon Håkonssons saga 1979, 188–189, 195–198). It is important to point out that the use of castles as a military means is completely absent in both the deliberations referred to and operational plans as narrated in the saga, by either the Vårbelger or Birkebeiner.

Once the fleet was equipped and prepared in Bergen, King Håkon gave orders for his army to head north from Western Norway. King Skule postponed the march from Nidaros until the fleet had reached the seaward approach to Trondheimsfjorden, and, as such, very far from his army in Eastern Norway. This enabled the new king to avoid a confrontation with Håkon's united military power and, instead, confront the Birkebeiner's armed forces separately in different regions of the country. With the Birkebeiner king closing in on Nidaros, the Vårbelger king marched towards the Birkebeiner Earl in the south (Håkon Håkonssons saga 1979, 200–202). The army approached Hamar in February 1240. But before the Vårbelger

could arrive in the city, they had to pass the castle at Steinsholmen outside of Ringsaker.

THE KEEP AT STEINSHOLMEN IN LAKE MJØSA

Hedmark and Mjøsa can be characterised as an important border area within Norway, as well as a central main route to king Håkon's hinterland in Eastern Norway. Throughout his career, Skule made frequent use of the land road across the mountains from Trondheim via Opplanda and down to Viken. I believe that this experience greatly contributed to the Birkebeiner King's decision to establish a castle in this area, bordering Skule's acknowledged third of the kingdom, the construction of which began in 1233 (Fig. 1 and 2).

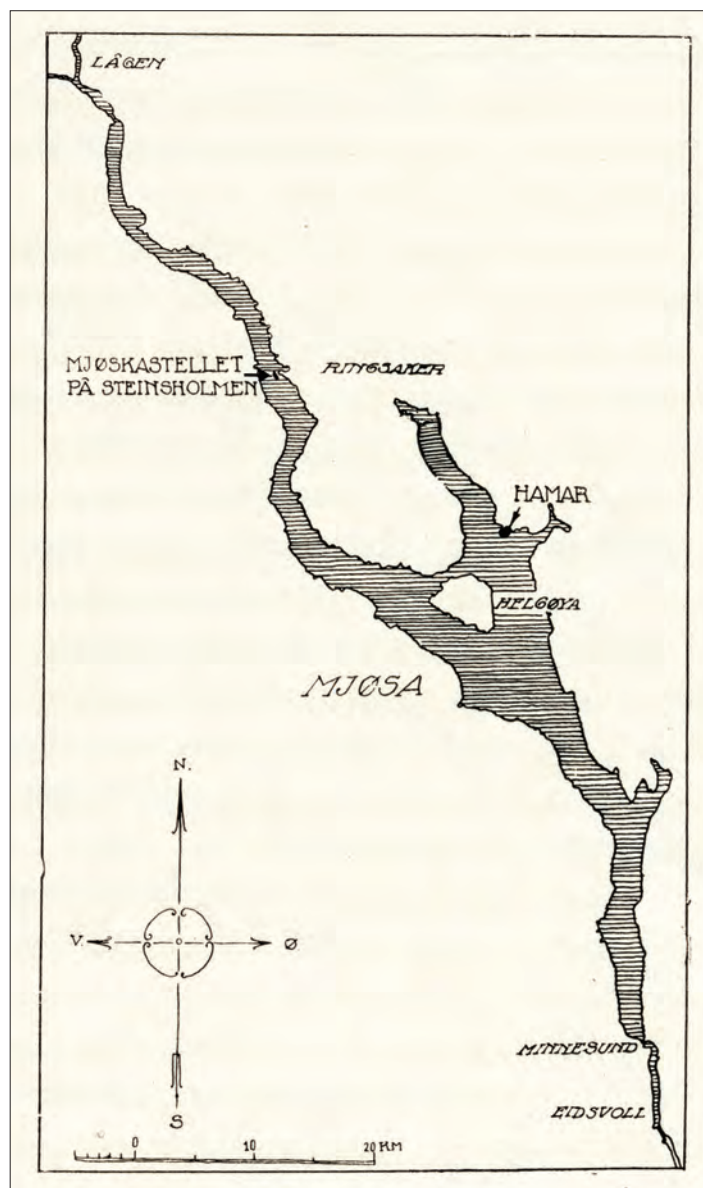
Archaeological studies of the Mjøs Castle (Miossar kastala) show that this was far from a small building, but a great tower of solid brickwork. The base measured 18 by 20 m (360 m²) and the walls were around three metres thick, which indicate a building with at least five stories. There is disagreement among archaeologists concerning the extent of the fortifications on the island, but it is an established fact that King Håkon initiated the construction of an entirely new castle in the 1230s, with a size and design layout that made the castle at Steinsholmen in Mjøsa not only the largest medieval tower in Norway, but also fairly sizeable in a European context (Fischer 1951, 217; Eriksson 1995, 134–136; Ekroll 1997, 54).

Steinsholmen is located about thirty kilometres to the north end of Mjøsa, where the lake still is rather narrow. This placement makes it difficult for ships to pass by unseen. The position of the Mjøs Castle entailed a large degree of control with the most important traffic artery in the central district in the inner Eastern Norway region, together with the lines of communication from

this large lake with country roads leading northwards and westwards. The ambition to achieve such control must at any rate have been an important reason for both the location and construction of this keep. But did it function in war?

When the Birkebeiner learned that the enemy was approaching, the chieftains moved almost all Birkebeiner troops, as well as the forces from Hedmark and Mjøsa, down to the field army in Oslo (Håkon Håkonssons saga 1979, 200, 203–204). These movements took place in a state of war and the way in

Fig. 2. The region of Lake Mjøsa in Eastern Norway (Fischer 1951, 201).



which the king's men in the inland area responded to learning of Skule's journey across the mountain consequently shows the military preparations they believed were most suitable for fighting the insurrection. Considered from this perspective, the castle, with its strong physical design and location, apparently did not play a central role. Mobility, not static defence, was considered decisive, even though both means were available.

If Skule had wanted to gradually gain control of the individual parts of the country, he most likely would have prioritised securing the castle in Mjøsa, especially considering his frequent use of the country roads across the mountains on his journeys between Eastern Norway and Trøndelag. Yet, this was not King Skule's goal. He did not aim to win this war with the aid of permanent strongholds, but by concentrating as much military power in the field army as possible.

Skule Bårdsson emphasised what we can characterise as a 'swift mobile campaign'. The king of the Värbelger needed all of his forces for his primary military target, namely the Birkebeiner's field army, and to defeat it in the hopefully decisive battle he was now seeking. In this respect, neither the siege nor capture of the castle at Steinsholmen would have given King Skule any form of strategic gain, at any rate not to the degree that he could forsake a war of manoeuvring. The fundamental fact is that castles themselves, no matter how densely sited or how individually strong, could not halt the incursions of an invading army. Therefore, the Värbelger just rode by, and took residence at the city of Hamar not far from the Mjøsa Castle.

Despite the fact that, in terms of size and location, the castle at Steinsholmen was a very impressive castle, it becomes obvious that none of the military leaders in Eastern Norway in 1240 considered this permanent stronghold to hold any vital strategic significance in or for the presence of the Birkebeiner kingdom in the inner Eastern Norway region during the campaign. The

war between the Värbelger and Birkebeiner show us that Mjøsa Castle neither dominated the surrounding landscape nor had control over the lines of communication. Naturally, the garrison could keep an eye on traffic, but not, on the water and, to an even less degree, prevent what took place on land. Besides, both sides knew that the Mjøsa Castle's fate would be decided in the course of the season somewhere other than in Mjøsa. Norway would be won on the battlefield.

King Skule had chosen a strategy that revolved entirely around battles. As a commander, he was strategically offensive, but tactically defensive (Arstad 2003, 27–61). The Birkebeiner had to be forced to attack the Värbelger, and that was exactly what Skule accomplished at Låke on March 9th 1240, when his men defeated an army twice its size (Håkon Håkonssons saga 1979, 204–207). The result of this battle was a weakening of the Birkebeiner's military strength in Eastern Norway, and their leaders sought refuge at Castle Berget in Tønsberg. The road to Viken and the sea lay wide open (Håkon Håkonssons saga 1979, 207).

THE CASTLE AT VALDISHOLMEN IN GLOMMA RIVER

Once in Oslo, King Skule gave his men time to recover while he assessed his position, after which he established new operational goals for the army. He chose the castle at Valdisholmen in the Glomma River. It had been built by the Birkebeiner during the period of peace following the reconciliation between them and the Ribbunger in 1223. Erecting a castle here on what was in effect a disputed frontier was a military operation as much as it was a building project. The castle was strategically located in relation to the road connections towards the border regions with Värmland. Its location meant that the largest and most important water routes in the eastern part of Southern Norway could

Fig. 3. The location of Valdisholm Castle in Glomma River (Fischer 1951, 192).

be controlled upstream from Sarpsfossen to the waterfall at Vamma directly north of Valdisholmen (Fig. 3). At any rate, this must have been the Birkebeiner's intention. But did they achieve this goal with the castle once war broke out?

Three weeks after the battle at Låke, Skule left Oslo and led his army along the country roads towards Valdisholmen with its castle (Fig. 4, 5), which we can assume had been reinforced during the 1230s in response to the escalating conflict between Håkon and Skule. Archaeologists have concluded that it is not possible to say anything definite about the details of the shape of the tower itself, though it can be said that it was quite tall and must have provided considerable protection of all sides (Nygaard 1995, 57–68). Its location, combined with a prepared mobilisation plan, were sufficient enough that even a smaller garrison should have been able to hold the castle against an enemy siege, especially since the Värbelger did not have any siege weapons at their disposal. The castle has been referred to as an almost impregnable stronghold and that a small garrison could stand its ground for quite some time against an enemy superior in numbers. That is not what happened. Instead, the Värbelger took the castle in less than a week, and without a fight (Håkon Håkonssons saga 1979, 212–214, 226).

The castle in Glomma was now in the hands of the Värbelger. The question that arises is, when King Skule initiated new military operations against the Birkebeiner, why was Valdisholmen a target to begin with? My theory thus far is that castles were not a central element of Skule Bårdsson's overall plan to conquer Norway. It is therefore quite

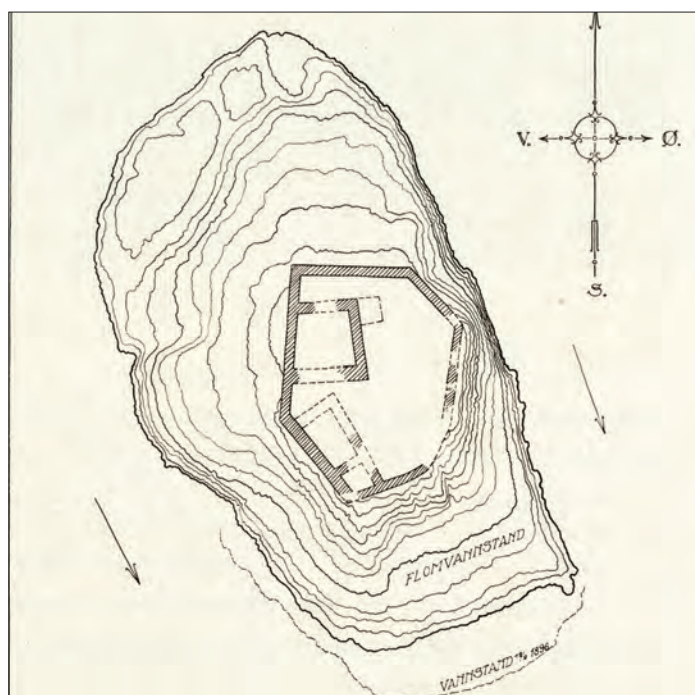


Fig. 4. Groundplan of Valdisholm Castle (Fischer 1951, 216).

Fig. 5. *Valdisholmen*
(drawing: Peter
Andreas Blix,
Wikipedia 2015).



odd that the castle at Valdesholmen was at the top of his military agenda. What could the reason have been?

I doubt that Skule's march on the castle was intended to secure the communication and transport of supplies and personnel up to Mjøsa. After all, with a disintegrating Birkebeiner army that was gathered in and around Tønsberg on the opposite side of the Oslo Fjord, unobstructed arteries of traffic and communication were shorter directly between Oslo and Hamar than from Oslo via Borg in the south, through Glomma up to Lake Øyeren. Nor did the castle itself pose any threat against the movements of the Värbelger in the area. So Skule could not have targeted the castle due to Valdesholmen's significance as a military stronghold with possible control over an important communication line. There must have been other reasons for this decision.

I believe that a central element of Skule's decision was the personal significance of the castle for the most reputable of all Birkebeiner chieftains, Lendmann (lendr maðr – landed man) Arnbjørn Jonsson. This

was his seat, the centre of his allotted fief. It must have been distressing for Arnbjørn to hear that Valdesholmen was in danger of falling into enemy hands, especially since the enemy in question was his long-standing rival for power and influence and whom Arnbjørn ceremoniously had proclaimed that he would never 'yield to'. For nearly 20 years, Arnbjørn Jonsson had tried to remove the Earl, later Duke, Skule Bårdsson from power. Now the same man had been proclaimed king and was about to surround his castle and home.

I believe that this personal rivalry was deliberately exploited by Skule, and that this parallels to Edward III's campaign in France in 1346, when the king ordered the English troops "in particular burn the manor of Montjoye, the most pleasant of all manors of the King of France in order better to provoke Philip to fight" (Melsa, quoted in Rogers 2000, 257). In this instance, if not the king, it was the human symbol of the Birkebeiner kingdom's authority in Eastern Norway over 20 years that was to be provoked into action.

I do not believe that the recently appointed new supreme commander in

Eastern Norway, Earl Knut Håkonsson, considered the protection of Valdisholm to be a priority, at any rate not after the defeat his army suffered at Låke. However, we can also consider it highly probable that Arnbjørn's attempt to rescue his castle, which ultimately failed, was expected by the Vårbelger's leaders. The reason that Arnbjørn Jonsson did not return with his men to Valdisholm after the defeat at Låke but continued to Tønsberg was naturally not to spread the Birkebeiner main forces too thin, which is exactly what the Vårbelger king was trying to achieve. By choosing Valdisholm as a military target, Skule forced the Birkebeiner army to once again split up, and the Vårbelger could for the second time confront a smaller fraction of the enemy without having to fight the entire army.

As mentioned earlier, Skule Bårdsson did not try to gain control with either cities or castles because his strategy was not based on a permanent occupation of the individual parts of the country. The weakening of the Birkebeiner kingdom's field army, on the other hand, together with their leaders' authority and reputation, was a top priority, and both were achieved as a result of this operation. In other words, the Valdisholm Castle had greater significance in the current strategic context as a symbol of the Birkebeiner power status and presence east of the Oslo Fjord than as a military stronghold, which gave the conquest symbolic importance to Skule, but was not necessary from a military perspective.

BERGET CASTLE, 'THE ROCK', IN TØNSBERG

Immediately after Easter, Skule began preparing his next military operation, which entailed seeking out the Birkebeiner in Tønsberg. But just as it was not primarily a military goal in itself to conquer the castle at Valdisholm, I doubt that these plans were

based on a desire to gain control of the stronghold in Vestfold. But the remnants of the Birkebeiner field army were concentrated in and around Berget Castle, so it was here, where the Vårbelger needed to go if they were to defeat the enemy in Eastern Norway.

It has been claimed that, during the period after the Vårbelger victory at Låke, Castle Berget demonstrated its significance as a strong bulwark. However, it becomes clear that the Birkebeiner were not equally convinced about the defensive strength of the site as later archaeologists and historians have been. Once Håkon's men learned that the Vårbelger in Oslo were ready to advance against them, we read that Earl Knut and the Birkebeiner leaders were preparing to sail northwards with the entire army (Håkon Håkonssons saga 1979, 215). This same faith in the castle as a safe refuge also emerges during the war in the 1220s. When the war broke out again in 1224, the Ribbunger were steadily advancing throughout Eastern Norway. So, in the spring of 1226, King Håkon needed once again to return to Western Norway to further strengthen his army. A hundred men remained at the castle in Tønsberg and, considering the natural defences of the site plus the strength of these men, a garrison of this size with ample supplies should have felt reasonably safe (Fig. 6). But the garrison immediately informed their King that they would not stay at Berget Castle when the rest of the army was sailing out from Viken. Håkon threatened severe punishment if they abandoned the castle, but when King Sigurd Erlingsson (1219–1226) advanced on Viken with his army, the Birkebeiner did not dare to stay and, despite the threats of punishment, followed in the tracks of their king to Bergen. In other words, a similar course of action as the one they chose 14 years later (Håkon Håkonssons saga 1979, 131).

However, in 1240, as the Birkebeiner army of Southern Norway was fleeing from Berget Castle, they were met by King Håkon's western army sailing up the Oslo Fjord. They joined Birkebeiner forces and,

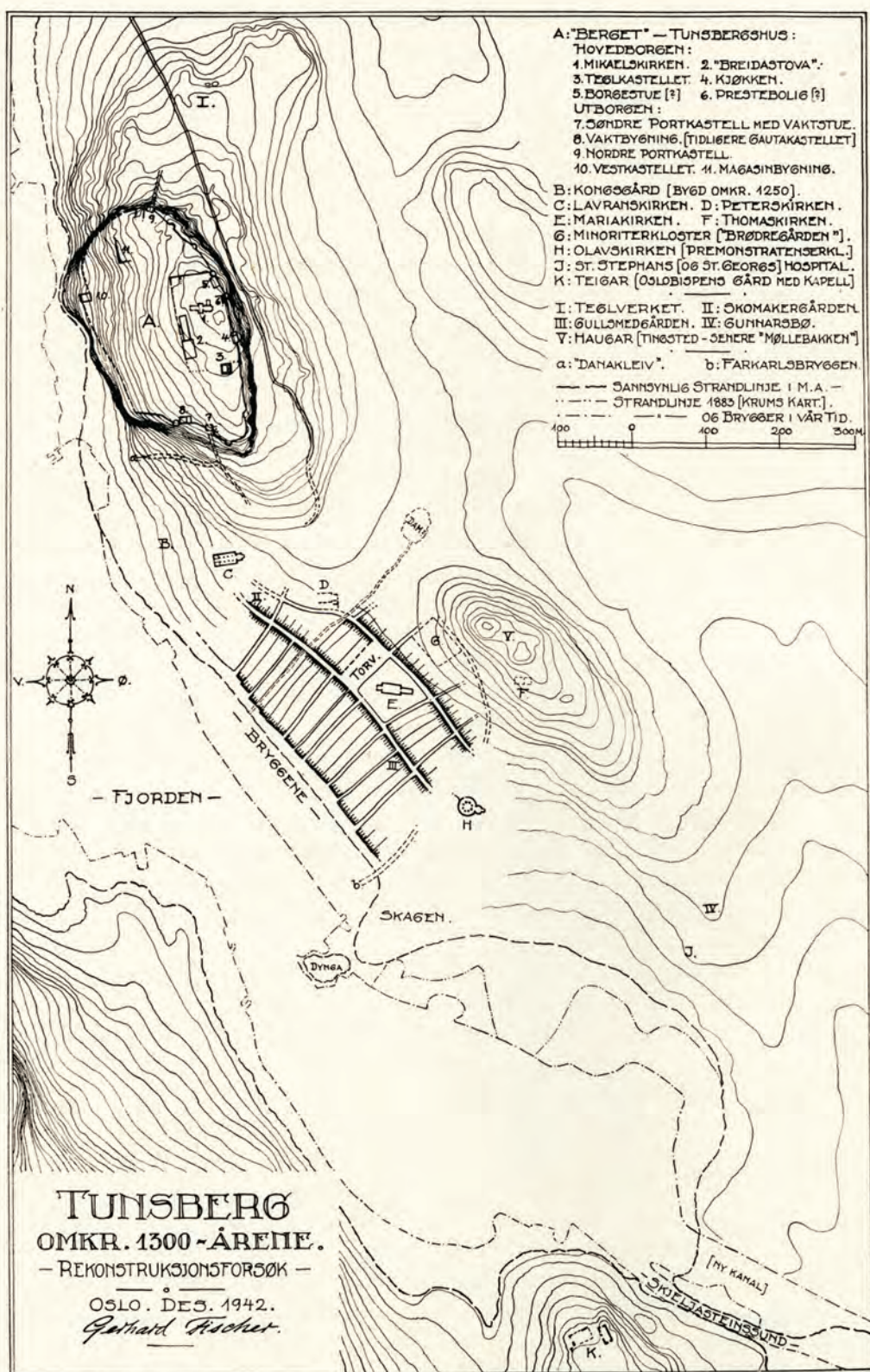


Fig. 6. Berget Castle (Fischer 1951, 102).

with the whole military might of their kingdom, surprised King Skule and his men, at most two thirds of his already at the outset smaller army, in Oslo at daybreak. The battle that followed on the 21st of April 1240, decided the war between Vårbelger and Birkebeiner (Håkon Håkonssons saga 1979, 220–230). Skule was defeated and Håkon kept his throne, no thanks to his castles, I might add.

None of the Birkebeiner King's castles that were built or reinforced in the 13th century, together with their garrisons, had proved capable of defending or controlling the surrounding area, be that a town, lake or river. Nor did they deprive the enemy of the possibility to moving around freely and utilising the area's resources. But, as shown in this paper, that was not necessary to triumph during the Norwegian civil wars.

DEVELOPMENT AFTER THE CIVIL WARS

During the period of inner peace that followed 1240, the newly consolidated national monarchy had much more time, energy and resources to invest in outward-oriented connections than the disunited kingdom had had during the civil wars. At times, this resulted in a tense relationship with Sweden, conflict with German towns and war with Denmark during the 1250s, '80s and '90s. Even so, according to our narrative and archaeological sources, castles played no major role in securing Norwegian territory during the second half of the 13th century. This information is entirely consistent with our normative sources from the same period.

The Norwegian military forces underwent a process of re-organisation in the 1270s. This comprehensive revision of the Norwegian military order must be seen as an expression of a strong will both on the part of the king and on the part of the nobles to reform the Norwegian military

power. However, the result of these changes showed that the country's military leadership did not yet see the need to change Norway's traditional military preparedness, which was based on its fleet and field army. Despite the existence of several stone castles within the kingdom; Ragnhildsholm at the southern border, in the towns of Tønsberg and Bergen and just outside Nidaros, as well as on islands in Mjøsa Lake and Glomma River, the new legislation promulgated around this time (Landevernsbolken in Landsloven; Hirdskræen) contains no information on the military role of the castles, castle guard or other building requirements or specifications.

The reform work was carried out for the benefit of the protection of king and country. We must therefore assume it highly probable that, if permanent strongholds had been considered necessary for the protection of the realm, this would have manifested itself in the comprehensive re-organisation of the Norwegian military power that took place during the latter half of the 13th century. We can therefore conclude that, up to this point, castles were not considered a decisive strategic military factor in Norway, and had not yet been incorporated as a vital part of national defence.

CONCLUSION

The growth in castle building in the eleventh century was common to Western Europe. By 1200 France could be characterized as "a country of castles", and much the same can be said of Spain. A similar development can be seen in German-Roman Empire and Hungary, and in England several hundred fortifications existed at about 1200. In Norway, even a century later, there were ten.

It is illuminating that Skule Bårdsson, one of the most prominent political and military leaders in medieval Norway, in his long career as earl (1217–1237), duke (1237–1239) and, ultimately, king (1239–1240), took no

steps whatsoever to establish any form of fortification around his main town Nidaros. Nor did he re-construct Sverre's stone castle Sion (which had been situated just outside Nidaros but razed to the ground in 1197) or build a new castle anywhere else in his third part of Norway, which he controlled during more than twenty years. In addition, when Skule assumed the title of king in 1239 and raised the rebel banner, he left his town and headquarters Nidaros completely open to the approaching enemy army, which naturally captured it, a fact that did not appear to worry him at all.

Many wars on the continent and British Isles were a war of borders, so the conflict was very much restricted to specific disputed zones (Prestwich 1996; France 1999). The civil wars in Norway were of a very different nature. Apart from the 1220s, the wars were fought from the Arctic Circle to the Danish border, not restricted to specific areas of dispute. Another important factor is the circumstances in terms of offensive/defensive strategies. Defensive strategies in particular tended to be based on castles, while warfare in Norway typically consisted of launching offensive campaigns. Norwegian military leaders did not focus on places either, but field armies. When kings and pretenders to the throne developed their strategies based on these principles, permanent strongholds were of less significance than if their ambition and goal had been to establish control over a limited area. The commanders chose a war of movement, and often battles. The castles were of minor importance for the precise reason that none of the players assigned them a central role.

As the existence of the Norwegian castles demonstrates, there was no absence of knowledge in this country of techniques for effectively fortifying strongholds during the 12th and 13th centuries. The limited number of such constructions was therefore not the result of the Norwegian commanders' ignorance of military science or effective methods of fortifications. Instead, this

was the outcome of a deliberate choice based on what was regarded as appropriate within a Norwegian context. This led to the formulation of a strategy of manoeuvre, based on a field army capable of giving battle, both on land and on sea. Consequently, the commanders attached only minor importance to castles and strongholds.

A change took place during the first decades of the 14th century. In sharp contrast to the Norwegian campaigns of 1289–1295, when the fleet brought devastation to many parts of the Danish islands, the Norwegian forces fought almost solely in the border areas during the war of 1307–1310. Ragnhildsholm Castle, built close to the border in the 1250s had remained practically untouched by war through the 13th century, but was now besieged three times in little over a year. A particularly illuminating example of the increased importance of permanent strongholds during the reign of King Håkon V (1299–1319) is the preparation of a separate *Borgrett*, a 'Law of the Castle' (Norges Gamle Love 1849, no. 61). As already mentioned, such a law had been entirely absent in his father King Magnus the Lawmender's extensive revision of the Norwegian military organisation only a few decades earlier. Håkon V was also the first Norwegian king to adopt the method of building a so-called counter-castle, namely Bohus south on the border. He also initiated the building of Akershus outside Oslo, and Vardøhus in far north Finnmark, erected to secure that region for the Norwegian crown.

With the war in 1307–1310, Norway became for the first time an active participant in so-called border warfare. The military and political development in the 14th century entailed an increasingly stronger focus on the border areas between the three kingdoms of Denmark, Norway and Sweden. The subsequent consequences of this are, however, an altogether different story.

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Knut Arstad
Fløterhakan 11
1920 Sørumsand
Norge
karstad@mil.no

PART I: THE ROLE OF CASTLES IN POLITICAL STRATEGY
SLAVIC STRONGHOLDS SOUTH OF THE BALTIC AT WAR

Felix Biermann

SLAVIC STRONGHOLDS SOUTH OF THE BALTIC AT WAR

Felix Biermann, Germany

ABSTRACT

In the north-western Slavic settlement territories south of the Baltic Sea many wood- and earth-strongholds were built between the 8th and the 12th century, used as residences and instruments of power by the rulers of tribal and more complex organizations, for the protection of people and their goods in times of war and sometimes also for the fortification of sacral places. They played an important role in the conflicts between the different Slavic rulers, but also in the wars between the north-western Slavic tribes and their neighbours. The paper gives a brief overview of the fortification types and their development in the course of times, the defence elements of these hill forts, the information from written sources on attacking, laying siege to and defending a Slavic stronghold, and it reports some examples of well-documented warlike actions at such strongholds.

INTRODUCTION

In today's North-Eastern German and North-Western Polish areas from the 8th to 12th centuries there existed hundreds of strongholds which were closely connected with the social and political, partly economic and religious organization of the Western Slavs. In general, these hill forts were not only inhabited by powers and their warrior retinue but often densely settled by large groups of people, too. As a rule, they were built with high expenditure of time and work, using several variants of ramparts made of wood and earth. In particular they were bases to rule the country, and because of this they were in the focus of all warlike conflicts – this is shown by archaeological finds and written

sources, like the chronicles by Widukind of Corvey († after 973), Thietmar of Merseburg († 1018), Adam of Bremen († between 1081 and 1085), Helmold of Bosau († after 1177) and Saxo Grammaticus († about 1220). They played an important role in the struggle between the different Slavic rulers but also in the wars between the north-western Slavic tribes and their neighbours – through the periods of the Frankish, Eastern Frankish and German Kingdoms and the Holy Roman Empire, the Polish Duchy and the Danish Kingdom. Moreover, the strongholds were helpful against the attacks of nomadic horsemen, such as the Old Magyars since the late 9th century.

The Slavic ring forts were built by rulers as residences, symbols and instruments of

*Previous page:
Reconstructed slavic
rampart at Raddusch
(photo: K. Atzbach).*



Fig. 1. Mecklenburg Stronghold near Wismar, trench through the rampart (back) and the settlement layers (front) with relics of houses, 8th/9th to 14th century (Donat 1984, pl. 2).

their power. Apparently, often they had a considerable potential to make masses of people help and serve with such a building project, as measured by the magnitude of the still today preserved ramparts and ditches. Archaeological excavations at the strongholds usually provide evidence for intensive settlement activities inside the ramparts, e. g. cultural layers, settlement pits, post holes, hearths and sunken huts (Fig. 1). Thus, they were not refuge forts but constantly settled places, albeit at least the large ones offered space for people and their goods also from the surroundings in times of war and danger.

This paper starts by giving a brief overview of the strongholds and their development in the north-western Slavic territory from the 8th to the 12th century. In the main focus are then the archaeologically recorded defence elements of the hill forts and the information from written sources on attacking, besieging and defending Slavic strongholds, quoting significant examples from Brandenburg, Mecklenburg, Cispomerania, Eastern Holstein and also

from some neighbouring western Slavic areas such as Greater Poland, Western Pomerania, Saxony and Lower Silesia (Fig. 2).

THE DEVELOPMENT OF STRONGHOLDS IN THE SLAVIC SETTLEMENT TERRITORIES SOUTH OF THE BALTIC

The history of the north-western Slavic strongholds can be roughly divided into three phases: It begins in the mid-8th century in the economically and socially highly developed coastal hinterlands. Between about 750 and 850/900 numerous large strongholds of the so-called Feldberg type (named after a site in Eastern Mecklenburg) were erected, often covering an area of several hectares, structured into main strongholds and outer baileys, with mighty ramparts and a dominant position on hillocks (Fig. 3). Generally their shape and defence lines are very skilfully adjusted to the topography of the building ground. They served as seats of the powerful

Fig. 2. Map of the historical or archaeological important strongholds in the north-western Slavic area mentioned in the text.

1 Arkona; 2 Bautzen;
3 Behren-Lübchin;
4 Brandenburg;
5 Demmin; 6 Dobin;
7 Drense; 8 Feldberg;
9 Fergitz; 10 Gebren;
11 Gniezno;
12 Gostyń; 13 Groß
Görnow; 14 Groß
Raden; 15 Havelberg;
16 Hof; 17 Ilow;
18 Kessin; 19 Klenica;
20 Lenzen;
21 Mecklenburg;
22 Meetschow;
23 Meißen; 24 Niemcza;
25 Oldenburg;
26 Plön; 27 Potzlow;
28 Raddusch;
29 Schwerin;
30 Schönfeld;
31 Segeberg;
32 Spandau;
33 Sternberger Burg;
34 Strehla; 35 Sukow;
36 Szczecin;
37 Törnau;
38 Walsleben;
39 Werle (mapping:
F. Biermann).

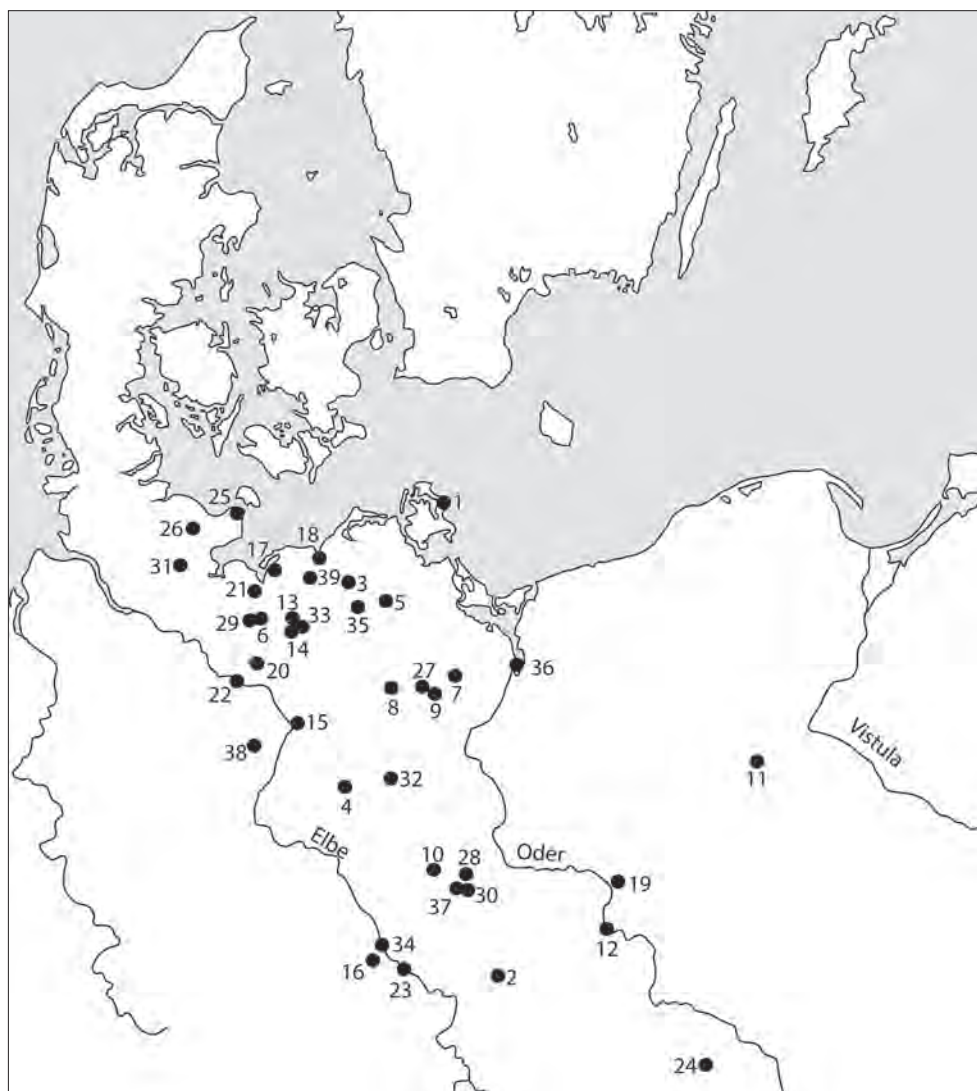


Fig. 3. Drense near Prenzlau (Uckermark), panorama of the large stronghold of the Feldberg type (photo: K. Frey).



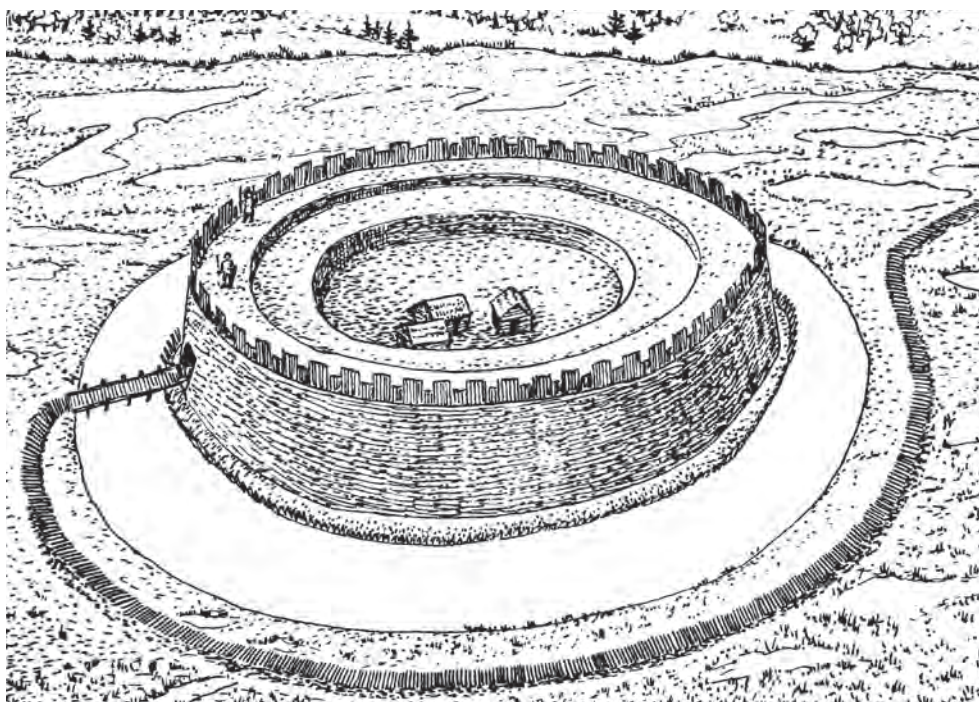


Fig. 4. Reconstruction of a small lowland ringfort (similar to Brobna, Upper Lusatia), late 9th/10th century (Leciejewicz 1982, 103, fig. 74).

tribal rulers of the Wilts, Abodrites and other tribes, moreover in the case of danger they offered protection for the people living in the vicinity. These strongholds needed large numbers of people to be built and defended, and their size and dimension allow for concluding on the considerable power of their lords (Brather 2006; Biermann 2011).

The second phase began in the 2nd half of the 9th century: The influence of the great princedoms of the Feldberg phase decreased, most of them broke down; the large fortifications were not maintained anymore; only very few of the large hill forts remained still in use throughout the 10th century. Instead there developed a decentralized, small-scale system of rule with many small chieftdoms competing with each other – a segmented power structure. In the whole western Slavic territory between the rivers Elbe and Narew (Eastern Poland) these chieftains built numerous small lowland ring forts, with a peak in the decades round 900: as a rule round fortifications with strong ramparts, water ditches and a diameter of only 50 to 80 m (Fig. 4). The change is readily identifiable – to use a well-known example –

by the stronghold group at Lake Sternberg in Western Mecklenburg: Instead of the large Feldberg strongholds, like Sternberger Burg and Groß Görnow (following each other in 8th/9th century), some hundred meters in diameter and built in irregular shape on hillocks or glacier tongues, the very small circular ring fort of Groß Raden (late 9th/10th century) (Schuldt 1983; 1985a, b) was erected. This kind of stronghold is mentioned in some parts of its geographical extension as the Tornow type, after a fortification in Lower Lusatia (Herrmann 1966a; Henning 2002). The limited size of these fortifications corresponded with the limited power of the chieftains. They were able to build, maintain and defend such small, but not larger fortifications.

This phase lasted up to the 2nd half of the 10th century; it was characterized by the military conflicts of the small chieftains between each other and the attempts of powers from abroad to achieve tributary control over the north-western Slavic territory. This was especially the East Frankish Kingdom since 928/9, when King Henry I († 936) attacked the important

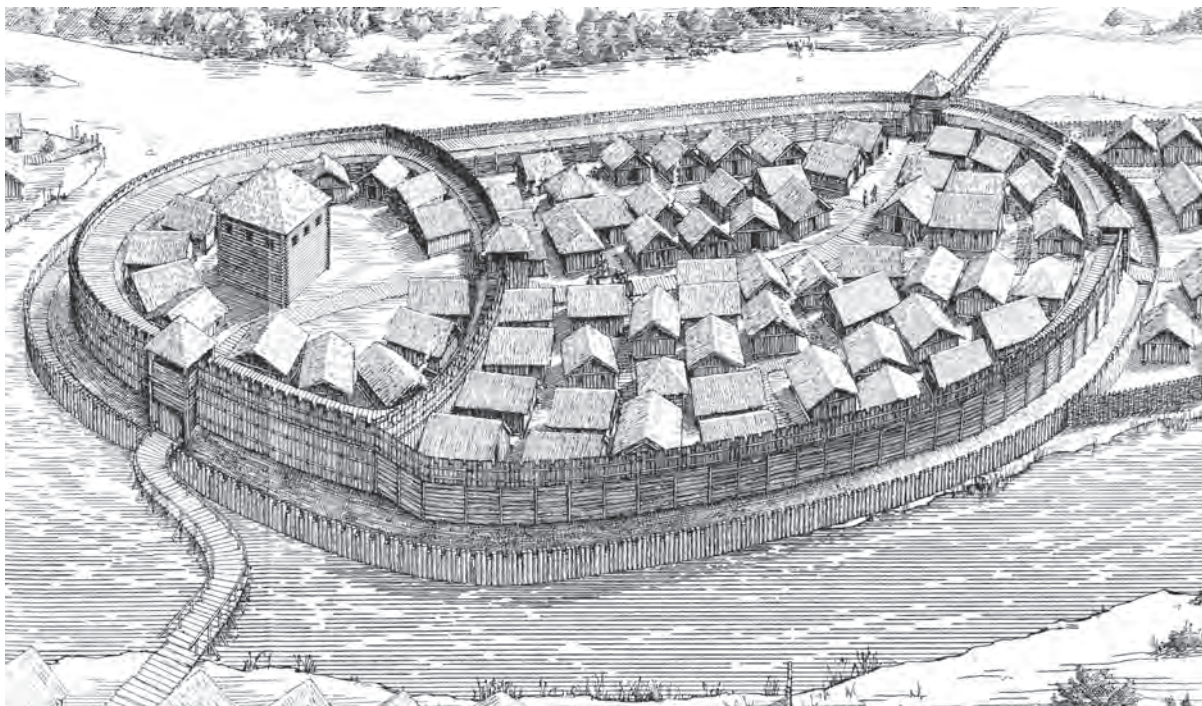


Fig. 5. Berlin-Spandau, free reconstruction of the castle-town at about 1000 (von Müller/von Müller-Muči 1983, addendum 9).

Hevellian Brandenburg Stronghold on River Havel and brought under control large parts of the north-western Slavic territory between Elbe and Oder (Brüske 1955, 16–19; Lübke 2004, 143ff.). In the East, since the mid-10th century there developed the duchy of the Polish Piasts, expanding since the late 10th century to Pomerania and the Oder territories (Kurnatowska 2000; Dulinicz 2002, 147–148).

In the third phase – 980/1000 to 1150/1200 – again there happened power concentrations, under home or foreign rulers – in the west and south-west the German kingdom and Holy Roman Empire established a stable rule in Margraviates. In the east the Polish Piast Duchy was a leading power, controlling large territories under Mieszko I. († 992) and his son Bolesław the Brave († 1025), and after troubles again since the decades around 1100 (Mühle 2011). From the late 10th to the 12th century Polish and German rulers based their power on only few but larger strongholds with administrative, military and often also religious central functions for each district. The western administrative castle organization, called

“*Burgwardsystem*” (Billig 1989; 2012), was established since the second half of the 10th century, mainly in the southern parts of the here considered territory. An example in the North is the mountain stronghold of Segeberg (Schleswig-Holstein) as a Danish and German power base on the Slavic border in the 1120s and 30s (Garner 1984; Kempke 1993, 162–163). In the region between the Holy Roman Empire, the Polish Duchy and the Baltic Sea there remained a large area characterized by archaic political organization and still pagan belief: The Lutician, Pomeranian and Rujanic territories in Northern Brandenburg, Mecklenburg and Pomerania (including the island of Rugia). The lands west of the River Oder had been mostly subjected by the Ottonian Kings in the middle third of the 10th century but became independent again after the successful rise of 983, the great “Lutician Revolt”; in Pomerania east of the River Oder the Polish Piasts repeatedly tried to increase their authority, but without permanent success. In these archaic tribal areas there ruled warlords, small kings, chieftains and priests, partly complemented by oligarchic assemblies (Brüske 1955; Billig

2012). According to the dissected power structure there were manifold strongholds, with small and large chieftain residences, administrative centres, so-called “castle towns” (*“Burgstädte”*) – strongholds and at the same time economic centres (Fig. 5) (Brachmann 1995) –, temple strongholds like Cape Arkona on the island of Rügen (Rugia, Ruchhöft 2010) or the famous, still unidentified cultic place of *Rethra/Riedegost* (Szczesiak 2007).

Not all strongholds in the north-western Slavic territory were built by Slavic rulers, and in general there were many relations between the Slavic fortifications and the contemporary complements in the Saxon, the Frankish and the South-Western Slavic zones. But several attributes of their historic background, their geographical positions and their formal-architectural specifics allow for defining a specific group of early medieval north-western Slavic strongholds.

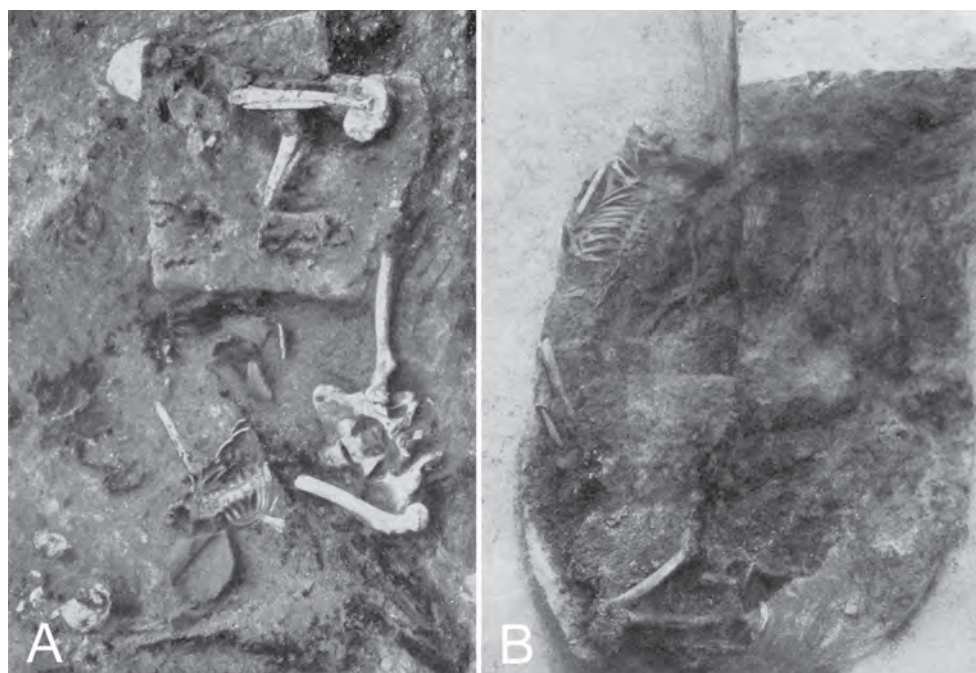
FIGHTING AND VIOLENCE AT STRONGHOLDS

Archaeological finds and written sources show that the strongholds were used for military and warlike purposes; they were built not primarily as symbols of power but rather out of fear. War was a frequent occurrence in those times. Who lost the conflict was struck dead, enslaved or became the subject of the hard terms of the victor. That the hill forts were in the focus of these combats is shown not only by burned ramparts, fire debris, arrowheads and further weapon findings in the strongholds but also by the relics of casualties. There are finds of victims of violence in many strongholds, often single parts of human bones in fire debris layers of the ramparts or in the ditches; mostly small parts of heads, limbs or hands which had been cut off during the fight and were left behind when the corpses were recovered after the battle (e. g. Frey 2001, 201–202,



Fig. 6. Potzlow (Uckermark), Feldberg stronghold, human mandible (arrow) in a settlement pit in the outer bailey of the stronghold, from the decades round 900 (photo: F. Biermann).

Fig. 7. Gostyn near Głogów (Lower Silesia), human skeletons in a pit (A) and a storage pit (B) of the stronghold, from the decades round 900 (Langenheimer 1939, pl. 24–25).



with further literature). At the Feldberg stronghold of Potzlow in the Uckermark parts of human skulls, jaws, teeth, and smashed long-bones were found in dozens, providing evidence of a real massacre during and after the capture of the stronghold in the 1st half of the 10th century (Fig. 6) (Biermann and Henning 2012). Very impressive are also the finds of several skeletons under burned house detritus in the Gostyn stronghold in Lower Silesia (Fig. 7) (Langenheimer 1939, 123). This feature could be explained as the result of the eradication of the whole group defending the hill fort; nobody was left to bury or rather cremate the victims; a situation comparable to the well-known 12th-century refuge forts of Borrebjerg and Guldborg on Langeland where many people were killed (Skaarup 2001). Moreover, there are skull sacrifices as evidence for acherontic violence-cult rituals in Slavic strongholds, e. g. from already mentioned Potzlow in Uckermark and also from Klenica, again in Lower Silesia (Biermann et. al. 2008, 79–80, 89 fig. 11). We have also written information about cruelties in several places: For example, King Henry I had all adults slaughtered after the conquest of the Daleminzian ring fort *Gana*

929 (probably Hof/Stauchitz near Oschatz in Saxony; Oexle and Strobel 2004) and led the boys and girls in captivity (Widukind of Corvey I.35). In the same year and context the Slavic Redarians massacred all inhabitants of the Saxon stronghold of Walsleben (near Osterburg on the River Elbe) after its conquest in the course of a westward raid. The revenge came immediately: Shortly afterwards, in retaliation the Saxon delegate for the Redarians, Bernhard, and his companion Thietmar besieged the Slavic stronghold of *Lunkini* (Lenzen at Elbe in the Prignitz area), won a battle against a Slavic relief force, and beheaded all prisoners the day after (Widukind of Corvey I.36). The victorious Saxon Holsatians massacred the Slavic inhabitants of Plön in Holstein after the conquest of the island stronghold in 1139, the Abodrite troops under their leader Pribizlav killed all Flemish defenders of the fortress of Mecklenburg in 1164; women and children became prisoners (Helmold of Bosau I.56, II.98). The troops of King Waldemar I of Denmark († 1182) killed all men at the conquered stronghold of the Circipanian *princeps* Otimar in Mecklenburg in 1171, the women were captured (Saxo

Grammaticus XIV.47; cf. Unverzagt/Schuldt 1963, 9–11). Extremely cruel was also the fate of priests, monks and nuns who had fallen in the hands of pagan forces during the Slavic insurrections in the late 10th and 11th centuries, as Adam of Bremen (e. g. II.42, 43; III.51) shudderingly reports; but the Christian revenge was by no means better. We could refer to many more examples from contemporary written sources.

In the north-western Slavic lands with their unstable and hardly institutionalized political structures, the use of violence was an important pillar and instrument of rule, and warlords as well as foreign conquerors had to demonstrate their military success and power by startling cruelties and punishment, especially in the case of insurgents etc. The profitable slave trade, born by native groups as hunters, Vikings and other foreigners as traders, heated up this atmosphere of violence (Henning 1992; McCormick 2002). Success in war and charisma were the main

base of rule in Slavic lands, and the enormous strongholds reflect these conditions. How were these strongholds prepared for and used at war?

DEFENCE ELEMENTS AND THEIR USE AT SLAVIC STRONGHOLDS

The defensive system of the Slavic ring forts is based on the often 5 to 10 m high and 10 to 15 m wide ramparts in wood construction. The log-construction chests stabilized with beams were filled up with sand and clay and often covered with stone- or sod-paved fronts. Because the rampart was assembled by self-contained chests and all wooden elements were fixed together in a very solid manner, such a rampart was nearly indestructible (Fig. 8–10) (see e. g. Schuldt 1965, 24–56; Herrmann 1967, 206–258; Biermann 2000, 127–135). In the course of

Fig. 8. Behren-Lübchin (Mecklenburg), late Slavic stronghold, wooden relics of the rampart, to the right posts of a presumable tower (Schuldt 1965, pl. 60).



Fig. 9. Berlin-Spandau, relics of the multi-phase rampart (photo: Hans-Peter Vietze, Michas 2010, 77 fig. 65).



Fig. 10. Fergitz (Uckermark), stronghold of the late 10th to the early 13th century, trench through the rampart with wooden substructure from the decades round 1000 (A in front, B) and the latest burned phase (B, in the background) (photos: F. Biermann).



rebuilding activities the width and height of the ramparts increased, sometimes to inconceivable measures: The widest rampart in the western Slavic world is reported from the Piast central residence in Gniezno in Greater Poland with a width of allegedly not less than 75 m (Kurnatowska 2004, 187, with further literature). More to the south we find also real masoned front walls made of stones

(Brachmann 1987), but this was not common in the broad hinterland of the Baltic Sea. An outstanding feature is the last fortification phase of the late Slavic island stronghold of Fergitz in the Uckermark, consisting of a mass of burned clay, hard like concrete (Fig. 10, 11), although this „*Schlackewall*“ („slag rampart“) was not made intentionally but rather a result of a catastrophic fire.



Fig. 11. Fergitz (Uckermark), masses of burned clay on the surface of the rampart (photo: F. Biermann).

This was demonstrated by excavation results. According to local fairy-tales this stronghold, which was destroyed in the early 13th century, burnt seven years long (von der Hagen 1911, 196, 212; Biermann et al. 2013, 431–434).

Height, strength and construction of these ramparts show that the builders had to anticipate siege machines like battering rams and siege towers. Otherwise palisades would have been sufficient, which are common only as first defence lines at island strongholds (against boat attacks) or in peripheral or rearward parts of other strongholds, but not as the main element. The use of siege machines is also indicated by historical sources: e. g., Thietmar of Merseburg describes in 1017 the use of machines by King Henry II († 1024) at the Polish stronghold Niemcza in Lower Silesia, which was answered by the Polish warriors by using their own machines. They were able to throw fire at the enemy machines (Thietmar of Merseburg, VII.63). Duke Henry the Lion ordered his men to construct a wooden battering ram and a siege tower to attack the Abodrite stronghold of *Wurle* (Werle in Mecklenburg) in 1163, as he had seen them at Milan and Cremona

during the Italian campaigns. Henceforth, as Helmold of Bosau (I.93) narrates, nobody of the Slavic warriors risked to raise his head over the rampart's breastwork, and soon the stronghold's commander Wertislaw was heavily wounded by an arrow. Besides, Wurle's rampart was sapped successfully. Saxo Grammaticus (XIV.39; cf. Ruchhöft 2010, 61–67) reports of wooden catapults constructed by the army of Danish King Waldemar in Arkona on Rügen 1168.

Fig. 12. Raddusch (Lower Lusatia), reconstructed 10th century stronghold, breastwork on the top of the rampart (photo: A. Leube).





Fig. 13. Danish Attack on Otimar's stronghold in 1171, a live picture (Geschichte 1971).

The defence was carried out from the platform on the top of the rampart. We have only very scarce archaeological evidence for the breastwork, probably made of wood and wattlework (Fig. 12), e. g. from Behren-Lübchin in Mecklenburg (Schuldt 1965, 37, 41–42, pl. 55b) and Berlin-Spandau (von Müller/von Müller-Mučí 1983, 32–39, pl. 15). Towers were apparently not very common at Slavic strongholds, but they are difficult to verify by way of archaeological methods, of course; we have some poor archaeological evidence, e. g. from Behren-Lübchin (Fig. 8) (Schuldt 1965, 44, 47 fig. 25, 29, pl. 61), Groß Raden in Mecklenburg (Schuldt 1985a, 14–16, pl. 2) and Schönfeld in Lower Lusatia (Wetzel 1985, 38, 42 fig. 27), moreover some written sources, best known from Arkona (Saxo Grammaticus XIV.39; cf. Ruchhöft 2010, 61–67). In the case of a stronghold somewhere in Mecklenburg, defended by Circipanic warriors under their chieftain Otimar against Danish King Waldemar in 1171, Saxo Grammaticus (XIV.47) tells of a makeshift tower built by the defenders while being attacked by the Danes (Unverzagt/Schuldt 1963, 10). All in all, towers seem to have been exceptions.

Thus, the main defensive position was the parapet on the rampart. Therefrom the opponent was attacked by using bow and arrows or spears, pelted with stones and fought otherwise. For this we have information from several written sources. While attacking the *Budusin* (Bautzen in Upper Lusatia) stronghold occupied by Duke Boleslaw the Brave in 1004, the nobleman Hemuza was killed by half a millstone thrown by the defenders, and in 1015 women helped by throwing stones in the defence of the *Misni* (Meißen at River Elbe in Saxony) ramparts against Polish troops (Thietmar of Merseburg, VI.15, VII.23). Of the javelin throws by the defenders on the rampart we hear during the siege of the Plön stronghold in 1127/29 (Helmold of Bosau I.48). According to Saxo Grammaticus (XIV.47; cf. Unverzagt/Schuldt 1963, 9–11), in 1171, the defenders of Otimar's stronghold in Mecklenburg stood on the rampart and snatched the shields from the Danish warriors with sickles fastened to poles, or they threw them right into the water (Fig. 13).

As factors of psychological warfare there served religious symbols on the ramparts – they protected them ideologically and forced the attacking troops to fight against a symbol which was perhaps holy also for them. Thus the Polish defenders put up the Cross on the rampart of the Silesian stronghold of Niemcza in 1017 (Thietmar of Merseburg, VII.60), the same did the inhabitants of Szczecin in 1147 during the Wendish Crusade on the ramparts of their fortress (Vincent of Prag ad a. 1147). Pagan symbols – such as the powerful *Stanitia* – and army flags were imprudently the only guards of the gate tower of Arkona during the Danish attack in 1168 (Saxo Grammaticus XIV.39; cf. Ruchhöft 2010, 62).

To keep away the enemy from the ramparts there were moats, the second main fortification element of the Slavic strongholds; the excavated earth from the ditches was used for the filling of the ramparts. At the lowland ring forts – naturally



protected by wetlands – there were usually only flat ditches filled with water which were sufficient to stop horsemen and machines. The problem of these fortifications was that their protection by the humid surroundings failed in winter time, and in fact most attacks in the Slavic countries took place in the cold season. For instance, King Henry I attacked the Hevellian stronghold of Brandenburg in winter 928/29. He took the stronghold on an island in the river Havel by hunger, ice and sword, as Widukind of Corvey (I.36) reports, while he was camping on the ice. The moats were probably meant for keeping at least these strips of ground ice-free in frost times. The stones which are often found in the moats may originate from this purpose. At hillforts on mountains there sometimes appear very deep moats of 2 to 4 m depth (e. g. Biermann and Henning 2012).

For crossing the ditch, the lake or the wetlands around the stronghold there existed simple earth banks or wooden bridges (Bleile 2005). The latter sometimes were several kilometres long and could be abolished in times

of danger, as Saxo Grammaticus (XIV.47) reports in the case of Otimar's stronghold being attacked in 1171; but he conveys also that the Danes were able to rebuild the bridge quite fast, using the posts still sticking in the ground of the lake (Unverzagt and Schuldt 1963, 9–10). For instance, there was a 80 to 100 m long bridge at the Groß Raden island stronghold in the 10th century (Schuldt 1985a, 63–65), the early Slavic stronghold of Sukow in Mecklenburg was connected to the shore of the lowland by a 1200 m long plank roadway (Schuldt 1964), and the Fergitz stronghold in the Oberuckersee (Fig. 14) had two bridge connections: a 400 m long bridge to the western shore, spanning across up to 17 meters deep water, and a 2,2 km long, 3 to 4 m high bridge and roadway on a shallow bank to the north (Herrmann 1966b, 215–230; Schablowsky 2011, 161–166).

The gates were mostly gaps or tunnels in the ramparts. They were not very representative but easy to defend (at last Kinkeldey 2013, with further literature). In case of an attack, the gate tunnels were

Fig. 14. Fergitz (Uckermark), the stronghold of late 10th to early 13th century on an island in the Oberuckersee. The main stronghold was on the large part of the island, the open settlement on the smaller one, and two bridges are connecting the fortification with the shore of the lake (photo: J. Wacker).

filled with earth and wood, as we learn from Saxo Grammaticus (XIV.39): At the Arkona stronghold, in 1168 a Danish boy succeeded with creeping inside the remaining hollow on the top of the gate filling where the defenders were not able to attack him. He started a fire inflaming the rampart, which led to the surrender of the temple fortress (cf. Ruchhöft 2010, 62–63). At some strongholds there were additional defence elements – fortified outer baileys, double ramparts or ditches, rows of palisades etc., the latter particularly at island strongholds, as already mentioned, against boat attacks (Schuldt 1965, 71–72 fig. 47). From only one stronghold, in Meetschow in the Hanoverian Wendland (Schneeweiß 2011, 59), we know ditches and banks vertical to the main defence line in front of the rampart. These co called “*Reitergassen*” (“Horseman’s

gaps”) are a characteristic facility to prevent horsemen from attacking the stronghold by riding along the rampart, mainly built against Magyar nomadic horsemen in the 1st half of the 10th century (Schulze-Dörrlamm 2002, 113–114, fig. 3).

The main problem of the strongholds was that they were built by inflammable material and could thus easily be set on fire by flaming arrows and other pillage. Fire debris provides evidence of this at many, not to say at nearly all strongholds. We hear from this e. g. in the 950s by Widukind of Corvey (III.45), when the Saxon Margrave Thiadrich burnt the outer bailey of a Slavic stronghold but then, however, came in distress in the swampy area, was attacked and lost 50 men. Boleslaw the Brave burned down the stronghold of *Strela* (Strehla on the River Elbe in Saxony) on his retreat to Poland in 1002, King Henry II had



Fig. 15. Raddusch (Lower Lusatia), well in the reconstructed 10th century Slavic stronghold (photo: A. Leube).

the same in mind some time later for the Bautzen ramparts, and there are many more references to destruction by fire in Thietmar's chronicle (Thietmar of Merseburg, V.18, VI.14, VI.53 etc.). As already mentioned, also Arkona was burned down in 1168 (Saxo Gramaticus XIV.39).

Because of this danger of fire, often several wells were built in the strongholds. They enabled the defenders to hold the whole strongholds wet in the case of an attack and extinguish fire when it was burning (Fig. 15) (Biermann 2001). These wells were sometimes large and impressing buildings: In Raddusch a 12 m deep well from the middle of the 10th century (Ullrich 2000, 145–163) was excavated. The wells were also used for the water supply of the people and, if necessary, the cattle, because in the case of danger numerous people fled into the strongholds: In *Karenzia* on Rügen, e. g. the allegedly usually unsettled temple stronghold was populated by supposedly 6000 people when the Danes attacked it in 1168. In the whole courtyard the Slavs had built multi-storied houses, and the unbearable stench inside forced them to surrender (Saxo Grammaticus XIV.39; cf. Ruchhöft 2010, 68–75). At hill forts built on mountains it was difficult to construct wells. There one used cisterns (Fig. 16) or the ramparts were led along the slopes in the valley to include wetlands or streams (Bastian 1957).

SIEGES AT SLAVIC STRONGHOLDS

In spite of their risk of fire, the ring forts were strong fortifications which could become objects of siege when the *coup de main* failed. From Widukind of Corvey (I.35, 36) we hear that already mentioned *Gana* was besieged for 20 days by Saxon troops, Lunkini five days, before these Slavic strongholds could be captured. A stronghold of the Wagrian *subregulus* Selibur in Eastern Holstein, perhaps the Oldenburg Stronghold,



Fig. 16. Arkona (Rugia), temple stronghold of 9th–12th century, wooden cistern in a ditch behind the rampart, excavation in the 1990s (photo: A. Leube).

was famished by the troops of his Slavic rival Mistav and his overlord, the Saxon Duke Hermann Billung († 973), in the 3rd quarter of the 10th century; the defenders surrendered because of hunger and the stench of the cattle (Widukind of Corvey III.68). Thietmar of Merseburg (VI.34, VII.63) narrates that the already mentioned Bautzen stronghold surrendered in 1008 to the Polish forces after about 14 days, King Henry II besieged and stormed in 1017 the Silesian Niemcza Stronghold during three weeks, however without success. The Abodrite prince Butue (Budivoj; † 1073) and his Saxon army were besieged in the island stronghold of Plön in Holstein by his rival Cruto († about 1190) in 1073 and had to surrender for lack of food, afterwards he was killed in breach of the agreement (Helmold of Bosau I.25, 26). The Havelberg stronghold (at the rivers Elbe and Havel junction), the centre of the Slavic Brizanians, was beleaguered for “days and months” by the Abodritian Prince Henry of Alt-Lübeck († 1127) about the year 1112, the stronghold of Kessin near Rostock was besieged for five weeks by his son Sventipolk († 1129) in 1128/29 (Helmold of Bosau I.37, 48). Demmin and *Dubin* (Dobin near Schwerin), strongholds in Mecklenburg and Cispomerania, were besieged during the famous Wendish Crusade of 1147 (Helmold of Bosau I. 65). In this context, Helmold of Bosau reports a characteristic action of

defence: a sally. Because the Danes laying siege to Dobin became careless, the Slavic defenders came out, killed many and “made their corpses fertilizer of the earth.” Not seldom we are told about bribes and betrayals in connection to such events (e. g. Thietmar of Merseburg V.8; Helmold of Bosau, I.25, 93; II.2).

ASYMMETRIC WARFARE

The chances of the defenders depended on the strength of the attackers. The small middle Slavic ring forts helped against the minor troops of neighbouring chieftains, but not in the case of the campaign of a mighty army; therefore the Polish Piasts were soon able to destroy dozens of small ring forts in Greater Poland, Lower Silesia and neighbouring countries in the course of erecting their giant duchy in the 10th century (Kurnatowska 2000; Dulicz 2002), just as King Henry I and Margrave Gero († 965) easily destroyed the many chieftain seats between rivers Elbe and Oder after 928/29 (Biermann 2000, 98–100; Henning 2002). We hear that Slavic rulers sometimes destroyed their strongholds themselves instead of defending them at the approach of strong enemy troops. Helmold of Bosau (I.88) reports that the Abodrite prince Niklot († 1160) burned down his own strongholds of Ilow, Mecklenburg, Schwerin and Dobin – all in Mecklenburg – when Duke Henry the Lion was leading an army into his country, and himself withdrew to the stronghold of Werle (1160). There he was killed in action in that same year. Afterwards his sons burned down also this fortress and hid in the vast forests. The same was done by the beaten and retreating Pomeranian troops with their own stronghold of Demmin in 1164 after the Battle of Verchen in Eastern Mecklenburg/Cispomerania (Helmold of Bosau, II.4)

However, the small chieftain and ring fort structures in many Slavic areas were a

problem for an expanding power, because who wanted to conquer a region with such ruling structures had to overcome dozens of small chiefs and hill forts, resulting in a kind of asymmetric warfare. When in the 960s Margrave Gero brought the Lusizi in the Lower Lusatia (nowadays Southern Brandenburg province) “in total servitude” (“*ad ultimam servitutem*”), as Widukind of Corvey (III.67) says, he had to destroy numerous small ring forts, approximately two dozens of them. He was seriously injured during this conflict and had to fight very much before he was able to erect the large hill fortress of *Jarina* (probably Gehren near Luckau; Gebuhr 2007) on a high mountain overlooking the Lusatian plains. It was during a comparable quarrel that about 30 Slavic chieftains (“*princip[es] barbarorum*”), invited by Gero to a grand wassail and banquet, were killed from behind (Widukind of Corvey II.20). By this act the Margrave violated – this must be emphasized – the strong norms of hospitality both in Saxon and in Slavic common law, and at that time there are several parallels to such assassinations at feasts (cf. Thietmar of Merseburg V.29; Helmold of Bosau I.34). This gives us an idea of the brutality of these wars and also of the political structure of early medieval Slavic tribal areas.

CONCLUSION

The strongholds in the north-western Slavic settlement territory in the southern hinterland of the Baltic Sea were first and foremost military buildings, useful for protection and as instruments of warlike power – archaeological and historical observations are concordant in this point. The fortifications were also domiciles of sometimes numerous groups of people, of the rulers and their retinue, moreover they could protect temples, control communication routes, borders and passes and serve as economic or administrative

centres. For the rulers, competing against each other, they were symbols of power and prestige, too, and still today their often imposing size and mightiness gives an impression of the power of these men.

The ring forts were, all in all, simple from a tactical-typological point of view. They were built mainly from wood and lacked representative towers, gates or stone architecture, as they were common e. g. in the political centres of the contemporary rulers in the Frankish Empire and its successor states, in Poland or in Moravia and Bohemia.

But the north-western Slavic strongholds, built by lots of earth and timber, were appropriate fortifications measured by the attack tactics and techniques of their time. From contemporary chronicles we learn about heavy attacks on Slavic strongholds by large, sometimes royal or imperial armies, about long-lasting sieges and successful defences. They stood in the focus of all wars and their control was crucial for the rule of the Slavic countries.

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Felix Biermann
 Georg-August-University Göttingen
 Pre- and Protohistoric branch
 Nikolausberger Weg 15
 37073 Göttingen
 Germany
 Felix.Biermann@phil.uni-goettingen.de

PART I: THE ROLE OF CASTLES IN POLITICAL STRATEGY

DANISH CASTLES AND FORTIFIED CITIES DURING THE 16TH AND THE BEGINNING OF THE 17TH CENTURIES

Jan Kock



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Jan Kock, Denmark

ABSTRACT

The defence of the Kingdom of Denmark has been significantly influenced by the country's location at major and economically important bodies of water and passages. A large number of fortified castles were built at strategically important points along the coastline. The contemporary political situation contributed to determining where the ruling king intended to enlarge and build castles and fortifications. In the late Middle Ages, the cannon was clearly the most important cause of the major changes and expansions necessary for the castles to be able to stand up to the attacks carried out with continuously more effective weapons. The needed alterations and modernizations of the fortifications from the early sixteenth until the middle of seventeenth century are presented.

The defence of the Kingdom of Denmark has been significantly influenced by the country's location at major and economically important bodies of water and passages – the Sound, the Great Belt and the Little Belt – where border and duty issues are significant. It is essentially along the coasts and borders of Denmark that royal castles were built. A large number of fortified castles were built at strategically important points in southern Denmark out towards the Baltic Sea and along Denmark's main water straits in the second half of the twelfth century and into the next century. Often these premises were renovated and expanded in subsequent centuries due to their ideal geographic locations.

The contemporary political situation contributed to determining where the king

intended to enlarge and build castles and fortifications. It was frequently seen that the economic frameworks were not sufficient and therefore that constructions that had already been started could not be built as quickly as planned or had to be abandoned entirely since the country's economic conditions and political context had decisively changed. Another factor involved was the development of military technology, which caused the constructions to become obsolete and made renovations necessary. In the late Middle Ages, the cannon was clearly the most important cause of the major changes and expansions necessary for the castles to be able to stand up to the attacks carried out with continuously more effective weapons. At the same time the castles were improved so that it was also

*Previous page:
Nyborg Castle (photo:
K. Atzbach).*

possible to use cannons to defend them. Since the brickwork of the castles could no longer withstand cannon balls, earthworks appeared for the first time in the 16th century, often being placed a little in front of the medieval castle. Protruding roundels and, later, bastions made it possible to use the cannons effectively in the defence.

In addition to the permanent land installations, it is very important for a coastal country to possess a powerful and modern navy. As a result of this realization, King John (Hans, 1481–1513) established a permanent navy. This was followed up by the subsequent kings, resulting in Denmark being one of the most important naval powers in much of the 16th and 17th centuries. Copenhagen was the home base of the navy, which led to major, frequent and substantial improvements on the necessary shipyards facilities on land.

CHRISTIAN III: STRONGER BUT FEWER CASTLES AND FORTIFICATIONS

The first decades of the 16th century was an unstable time for Denmark being characterized by major social and religious tensions in connection with the reformation. It ended with a civil war in the years 1534–36, when the adherents of Lutheranism came to power, with Christian III (1534–59) as the unifying figure. The king became stronger, also economically, when the Crown annexed all church property during the Reformation. The war had seriously damaged the kingdom's castles. Renovation and renewal were urgently needed, especially when the power of the new king was threatened from without in the first years, in that others claimed the right to the Danish Crown. It was not until 1544 that this refractoriness was settled with the peace treaty in Speyer where the catholic emperor Karl V accepted the protestant Danish king Christian III as ruler.

Christian III worked out a deliberate strategy for developing the kingdom's fortifications. He focused on building and renewing far fewer installations than previously, but his installations were generally stronger than before. Due to the threat from the south, the improvements started out in the border areas in southern Jutland and in the passages. The Sound region was unquestionably the economic centre of the country, and it was also here that Christian III chose to carry out massive improvements (Norn 1949, 116; Lorenzen 1947a, 228; Jagd 1988, 107) (Fig. 1).

Improvements were made on the fortifications encircling/surrounding the Danish capital Copenhagen, where the navy was based. The town was by far the biggest in the kingdom. The preceding kings had already substantially improved the town's fortification several times, so it was a relatively strongly fortified town that Christian III himself had captured after one year of siege in 1536. Just as in Malmö, the citizens had chosen to be loyal to his opponent who was the imprisoned Christian II. On the land side, the fortification of the capital consisted of brick walls reinforced with earth works at the inside. In addition, the walls were equipped with towers and special fittings at the gate (Skaarup, et al. 1996). However, the fortress was not a complete and coherent, much less particularly strong construction. During the reign of Christian III the defences were fortified with more towers, and certain sections with new ramparts and walls. The royal castle itself stood on its own on a little islet close to the town's beach on the Sound and had its own, albeit quite weak, fortification. During the reign of this king, the castle was transformed so that it resembled a palace that served ceremonial purposes. East and south of the castle the naval base of the nation was improved with all the many facilities necessary for building, maintaining and fitting out ships. The fortification of Copenhagen is such a big and complicated construction that, to a large extent, it was

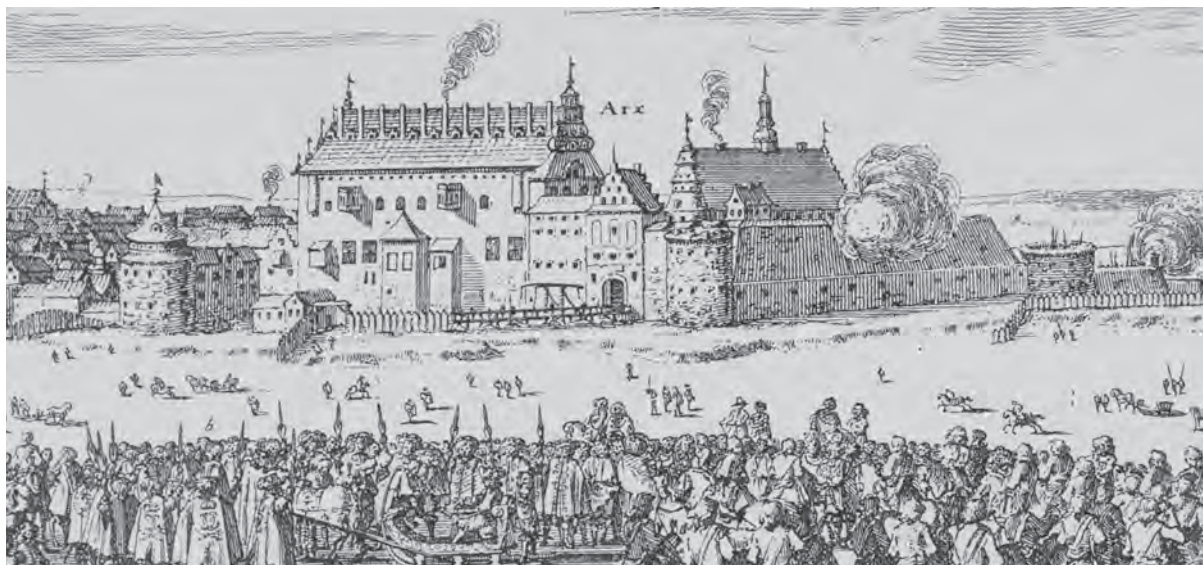
Fig. 1. Castles and towns where Christian III (1534–1559) undertook important fortification work. Several of the installations had already been developed as fortifications by his father, Frederik I (1523–1533), or even earlier. In the border region, Christian III primarily renovated the fortifications of Krempe, Rendsborg and Sønderborg, but he also improved the fortifications in Kiel, Gottorp in Schleswig, Flensborg and Tønder. Further north in Jutland, he massively improved Ribe, and constructed a new Aalborghus, and he also substantially reinforced the fortification around Randers. On Fünen, the king made Nyborg into one of the kingdom's primary fortifications. On Zealand, he fortified Copenhagen, and there were plans to renovate Krogen (later the castle Kronborg) in the later years of the king's reign. East of the Sound, he renovated Malmö and improved Landskrona to make it a primary construction. Christian III expanded Varberg significantly, as well as Halmstad. He also preserved Sølvesborg as a stronghold and renovated Akershus in Norway (drawing: S. Kaas).



necessary to add on to the existing structures, also because funding was constantly a problem and made significant compromises necessary (Norn 1947, 74).

On the opposite side of the Sound lay the town of Malmö, the second most important town in the region. The town was fortified and

south of it a small fortification had existed since the 15th century. Like the population of Copenhagen, the inhabitants of Malmö chose to support Christian II during the civil war of 1534–36. In 1534, the townspeople captured the fortification near the town where the Danish garrison loyal to Christian III was based – i. e.,



the opponents – and demolished substantial parts of the castle. The town nevertheless surrendered to Christian III in 1536 and the king promised to never build a castle in the town without their acceptance. However, the same year the king initiated the construction of a new castle in the town without seeking consent. A substantial part of the old castle was incorporated in the building, including a large stone house. With its four cannon roundels the structure in the new rectangular construction was absolutely modern and lived up to the contemporary dictates of advanced fortifications. It is probable that Christian III's master builder Morten Bussert was in charge of the construction of the new Malmöhus Castle. He is known to have worked at the fortification of Copenhagen, at the castle in Krempe, Landskrona, Aalborg and presumably Nyborg, and he remained in the service of the king until his death in 1553. He probably came to Denmark from Flanders around 1520. It is possible that from there he brought with him the latest knowledge of the science of fortification, since in the preceding years major fortifications had been built facing France and expertise had been called in, in the form of Italian fortification engineers, for this purpose.

Malmöhus Castle was completed in 1542 (Norn 1947, 82; Reisnert 1999, 72).

It was built as a four-winged, rectangular construction with a courtyard measuring about 100 x 70 m, surrounded by wide moats. Only a narrow embankment separated the building from the Sound. It was accessible from the northwest through a gatehouse placed at the southern end of the great stone house, which was supplied with a wall walk, but which was otherwise used as a residence and for ceremonial purposes when the king and other important people came to visit. The other three sides consisted of earthworks with a rather low wall and a covered way in front. These were protected by the earthworks and created a connection to the main defence of the castle, which was made up of four heavy, protruding cannon roundels with space for several tiers of cannon. At the top was a platform well suited for defence against a distant enemy. The cannons mounted at the bottom were positioned only slightly above the water of the moat and thus offered the best position for sweeping the moats and base of the earthworks. In addition, there was room for heavy artillery on the top of the earthworks and the riflemen found well-covered places to stand in the wall walk in the base of the earthworks (Fig. 2).

From a later account of the size of the cannons stored in Malmöhus Castle, we get a good overall impression of the heavy

Fig. 2. Malmöhus Castle seen from the northwest during the Swedish siege in the winter of 1658. The massive cannon roundels are characteristic of the construction, which essentially remained as it was built during the reign of Christian III. The biggest roundel has a diameter of 23.4 m and its walls are all 7.6 m thick at their base. In addition to the cannons, there was room for both troops and ammunition. From the Swedish engineer Erik Dahlberg's prospectus (Norn 1947, 82).

armament with cannons. The account is from 1597, when Christian IV ascended to the throne, and suggests that the cannons there were not among the most modern ones of the era (Mortensen 1999, 285). Most of the 50 cannons were iron cannons made of either wrought iron or, as something quite new, cast iron. There were seven heavy bronze cannons. In addition, there were 67 harquebuses. These lists of armaments should be used with caution; for the cannons were moved around quite frequently according to which castle needed them most. If cannons were lacking on one of the armed naval ships, cannons could also be taken from one of the king's castles in an emergency.

Further up the coast of the Sound, the king constructed a completely new fortification on the edge of the market town of Landskrona. The work was started in 1549 and Morten Bussert was again placed in charge. The building was not finished until 1560, after numerous delays and extra taxation. Part of the town's medieval earthwork had to be removed to make space for the project, which had the same near-shore location as Malmøhus Castle. A castle with the same ground-plan as Malmøhus, if a little smaller, was constructed, surrounded by a 70-m-wide moat (Norn 1947, 92). In the west wing a stone house was built. The other three sides were covered by heavy walls. The main defence was in four roundels mounted in each of the four corners. Three of them contained two tiers of gun decks, the westernmost three tiers. Furthermore, all external walls were equipped with gun ports and many embrasures.

At the northern end of the Sound, on the western side, was the castle of Krogen, later rebuilt as Kronborg Castle, and on the opposite side, in Helsingborg, was a corresponding strong fortification by the name of Kärnan (Swedish for 'the core'). Both were crucial in the struggle to enforce the right of the king to levy a toll on all navigation in the Sound. This was an important source of income for the king since the toll went directly into his

coffers. In the time of Christian III these installations were not renovated. Plans to rebuild the castle of Krogen were completed in 1558–59 by the new general master builder Hans von Dieskau, but never carried out. The proposal was to build two diagonally positioned bastions (Langberg 1955 and 1991; Hvass 1997, 9). The death of the king and war got in the way.

It was also necessary for the king to have control over the other passages. On the Great Belt, Nyborg Castle, on the eastern coast of Funen, was particularly important, along with a corresponding albeit smaller fortification at Korsør on the Zealand side. The place had been heavily fortified since the 12th century. During the civil war from 1534 to 1536, first Christoffer of Oldenburg loyal to Christian II and later the army commander Johan Rantzau of victorious Christian III captured the castle and its fortified town.

Christian III chose to considerably improve Nyborg Castle (Norn 1947, 61; Fisker et. al. 2005). The thickness of the surrounding northern curtain wall and the western stone house was increased, and the castle was equipped with galleries, embrasures and machicolations; furthermore, the bottom two floors of the corner tower were filled in to be able to support the arrangement of the cannons on the third floor. Other construction work was also carried out, but the construction came to a halt due to a lack of funds and was never fully realized.

The walled town of Nyborg had been badly damaged during the civil war. Considerable resources were therefore invested in renovating and improving it already from 1540 and all the way up until 1557, when the construction work was stopped. The first campaign of rebuilding seems to end in 1549 and the next followed the years around 1551 and 1552 and resulted in that the southern flank of the town was closed with an approximately one-km-long earthwork with a roundel at either end. The eastern side was also provided with an earthwork connected to the roundel of the earthwork to the south



and to a somewhat smaller roundel toward the north. The northern earthwork radiated from here, flanked on the west by the biggest roundel of the construction. In total there were by now five roundels. The fortifications of the town and the castle thus formed a whole and remained essentially unchanged for the next 100 years (Fig. 3). Recently it have been argued quite convincingly with circumstantial evidence that the king in the second campaign renewed the fortification with the most modern but also more expensive bastions (Sørensen 2014, 16). If this is correct it means that we at Nyborg Castle have the earliest known example of the use of bastions in Denmark.

Castles built later in the reign of Christian III were often built on a smaller scale. A good example is Aalborghus in Aalborg on Limfjorden, which was not completed until the 1550s. It has the same ground plan as Malmøhus Castle, but the dimensions are substantially smaller and the roundels more modest. This may be because Aalborg was not the principal fortification in the kingdom, but also because the king was constantly in need of resources for building, and finally because there was no longer an immediate threat of war.

Roundels were still somewhat modern in Europe when Christian III began his many constructions in the 1530s. But as early as in the beginning of the sixteenth-century Italy was well underway developing a more advanced earthwork system based

on bastions that were protruding polygonal segments or polygons from which it was possible to shoot along the rampart walls. Stone walls were for the most part replaced or supplemented by earthworks, which were better able to withstand the heavy artillery that was becoming increasingly available. The cannons could either stand protected in vaulted casemates which were built into the earthworks or be placed behind protective entrenchments on the top of the bastions.

Italy in particular developed exemplary fortifications dominated by bastions. The German area as well kept abreast of developments, and several theoretical books on the topic were published in German; among these, Albrecht Dürer's work, *Ethliche Unterricht*, is particularly noteworthy (Norn 1947, 187). However, it was expensive and complicated to follow these ideals. Christian III was forced to resign himself and keep to the roundels since the Danish economy could not keep pace. North of the Alps the earliest bastion is seen around 1543 in Antwerp erected by the emperor.

The king's new master builder, Hans von Dieskau, who arrived in Denmark in 1558, had experience with bastions from the Continent, but the king's death the following year put a halt to the introduction of the first bastions even in his time.

Fig. 3. Nyborg Castle and fortification seen from the southwest. The castle itself stands to the left, and just to the right of it, down toward the wet meadow, is the southwest roundel built presumably early during the reign of Christian III. The roundel has a diameter of 50 m and was built as an earthwork with steep sides. The towers and spires on the castle are later works added at the time of Christian IV. The drawing was made by the Swedish engineer Erik Dahlberg in 1659 (Kjær 2006).



Fig. 4. In the foreground stands the great and magnificent Kronborg Castle on the west coast of the northern part of Øresund (the Sound). The castle is surrounded by outworks with bastions completed in 1588. Here all passing ships had to pay toll. The fortification of Helsingborg with Kärnan on the opposite coast supported the collection of duties. A little further down the coast is the fortification of Landskrona, built during the reign of Christian III, and finally Malmö is visible farthest to the south. Seen from the west. From Braun and Hogenberg ca. 1590 (Kjær 2006).

FREDERICK II: LIMITED CONSTRUCTION OF FORTIFICATIONS

Frederick II (1559–1588) continued his father's policy of improving the existing castles, with emphasis on the Sound and the areas bordering on Sweden. However, only limited funds were made available for maintaining and developing these castles. It was not until the Scandinavian Seven-Year War (1563–1570) that significant efforts were made to improve castles and fortifications, work which continued in subsequent years (Bjerg, Frantzen 2005, 46). The war was fought over the rule of the Baltic Sea. The Swedes had high ambitions which were at odds with the interests of the rest of the Baltic countries. This war was mainly fought at sea and the navy demonstrated its justification. Battles were nevertheless also fought on land and major battles were waged in areas bordering on Sweden: Varberg, Halmstad, Bohus and the Swedish frontier fortress

of Älvsborg, which was conquered by the Danes (Lovén 1999; Linge 2002). The Bohus fortification had been roughly handled and reparation work was immediately commenced since it was important to have a strong foothold at the Swedish border (Löfberg 1993). It is possible that the construction of bastions began already on this occasion. Upon the conclusion of peace in Stettin in 1570, Denmark's case looked good. The Swedes were to pay a ransom to get back the Älvsborg fortification. This construction was of considerable importance to Sweden since it was positioned at Sweden's narrow corridor out to the Kattegat Sea. The trade on the river was of great economic importance.

The following year was favourable for Denmark. The Sound Toll that was levied by Kronborg and that went directly into the king's coffers made major building plans possible. In 1574–1588, Frederick II remodelled and expanded Krogen and created the magnificent Renaissance castle

of Kronborg, which at the same time became even more of a fortification through the addition of a sophisticated rampart construction with bastions (Langberg 1991; Hvass 1997). The master builder Hans van Paeschen was in charge of the construction until 1577, at which point he was replaced by Antonius Opbergen. The defence was laid out in a surrounding moat with a bastion in each corner, joined together with uniform rampart walls. In the southwest corner of the castle itself a tall tower was built, called Kanontårnet (the Cannon Tower), from which it was possible to shoot cannon balls high across the Sound (Fig. 4).

During the reign of Frederick II, many of the fortifications in the area bordering on Sweden were considerably improved, due to the standing conflict, e. g. Varberg on the coast of Halland. When its fortification was finished around 1600, it was a modern one built of stone and containing four enormous corner bastions equipped with covered vaults, which were built according to the newest and most advanced principles for such constructions. A number of the royal master builders worked in Varberg, such as, starting in 1587, Hans van Steenwinckel, who also came from the Dutch area, as did several of the Crown's other master builders at the time. These Dutchmen had solid knowledge of the latest developments in the art of fortification.

CHRISTIAN IV: MANY NEW FORTIFICATIONS AND MUCH FORTIFICATION WORK

When Frederick II died, his son Christian was only 11 years old. The son acceded to the throne as Christian IV (1588–1648), but until he came of age he was supported by regency. Economically, this was a period of increasing prosperity and Denmark was considered a superpower in the region during the first several years of his reign. However, as a result of the wars waged during the long

reign of the king (War of Kalmar 1611–1613, the Emporers War 1618–1629 and finally the Torstensson War 1643–1645 – all more or less parts of the 'Thirty Years' War 1618–1648), gradually the economy became overextended (Bjerg, Frantzen 2005, 70; Wolke et. al. 2006). During his reign, some of the most important goals were to improve and fortify the border toward Sweden, to strengthen the defence of Øresund (the Sound), to develop Norway's defence against Sweden and, finally, to secure the border to the south. In addition to this, many of the existing fortifications were renovated. A striking characteristic of the fortification work carried out in Christian IV's time is the use of bastions, which were developed and refined considerably in this period. The king regularly had to take out loans to finance the improvement of his kingdom's fortifications, the large navy and the many other expensive construction projects that the king, greedy for more construction, threw himself into. His decisions were not infrequently characterised by impulsiveness, which led him to lose interest in a project before it was completed and instead embark on new ones, which then, in their turn, required financing. Furthermore, a number of the wars that took place during his reign made it necessary to change the strategy for where to carry out fortification work (Fig. 5).

The king massively invested in the development of the nation's naval harbour in Copenhagen as well as in the fortification of the city. He took charge of this work himself periodically and was interested in both the big picture and the smallest detail. For fitting out the ships, an entirely new facility, a naval port or armoury complex, was built just south of the castle, around a dock measuring 78.5 x 78.5 m. On the west side of the castle, a 160 m long armoury was built, toward the east a provision house was built with the same dimensions, and toward the south the facility was closed in part by a low galley house and in part by a sulphur house, which stood on opposite sides of the canal leading into the protected square

Fig. 5. Towns and fortifications built during the reign of King Christian IV (1588–1648), already existing fortifications, and towns reconstructed in the same period. (drawing: S. Kaas).



harbour (Heiberg 1988, 351) (Fig. 6).

Even according to continental standards, this was a modern layout. East of this facility, the king expanded the shipbuilding area, making it a large facility with three docks, anchor forge, rope makers and other devices

required in a large shipyard. Many ships were built here to expand the navy and replace the many ships that were lost in the naval battles. Both victories and defeats were numerous. At the critical naval battle at Kolberger Heide and a subsequent naval battle in the Femern



Belt, the Danish navy lost many ships. In spite of this, in 1648 Danish warships numbered a total of 41, with room for 1067 cannons. In 1596, the navy consisted of only 22 battleships, with room for 588 cannons. However, all the vessels were not built in Copenhagen. The king also had naval ships built in Nakskov, Flensborg, Neustadt and at Akershus (Heiberg 1988, 353). A number of bronze cannons were cast in Denmark, some in Copenhagen and some up at Kronborg on northern Zealand; however, many came from abroad. Cast iron cannons came mainly from the Netherlands. The king also had a production of rifles, cannon balls and gunpowder.

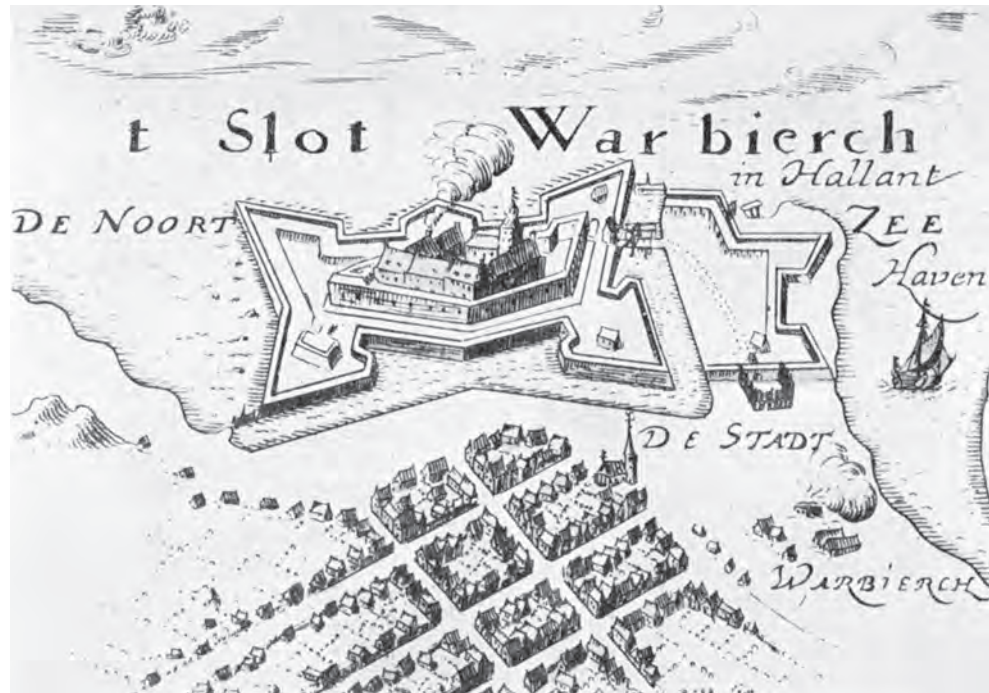
In the years preceding the War of Kalmar, the border to Sweden was fortified. The work on improving the border fortification of Varberg on the coast of Halland, which was started during the reign of Frederik II, was continued and completed with enormous bastions, so now it was an entirely modern construction (Lorenzen 1937; Sandklef 1966) (Fig. 7). Further north at the boundary river of Göta, the Bohus fortification was also supplied with bastions. This fortification was of considerable strategic importance, since it stood at the Swedish corridor to the Kattegat Sea. The Swedes had the border fortification of Älvsborg here for many years, and it was situated a short way further up the river. Towards the south, major renovations of fortifications were carried out, primarily of the fortification surrounding the town of Halmstad, where the bastions also

came to play an important role. The main function of these three fortifications was to withstand attacks from the Swedish side, as well as to serve as the point of departure for Danish expeditions into Sweden toward, for instance, Jönköping. In the northeast corner of Blekinge, a completely new fortification, called Christianopol, was erected out at the coast. The town was established on a narrow island with a straight street plan, square and fortification with eight bastions. The fortification was situated here to counteract the Swedes' large fortification at Kalmar a little further up the east coast (Lovén 1999, 72). During the War of Kalmar, Christianopol was invaded by the Swedes, but subsequently rebuilt when the town once again came into Danish possession. The royal master builder Hans van Steenwinckel took active part in practically all of these constructions for either short or long time periods, along with a number of other royal master builders.

After the War of Kalmar, during which Denmark had been fairly successful and, among other things, had captured the town and fortification of Kalmar and the fortification of Älvsborg, the still wealthy king continued his major building plans. Striking among these projects is the entirely new fortified town of Christianstad in the western part of Blekinge on an island in Helgeå, 20 km from the coast. There were no old constructions to take into account here, so an ideal plan could be realised. The king himself was present in 1614 when the town's strictly rectangular shape of roughly 850 x

Fig. 6. Christian IV's naval harbour in Copenhagen in 1611. To the left front is the new naval port or naval arsenal with buildings on all four sides. In the middle is the anchor forge, which was later converted into the Holmens Kirke (Church of Holmen), and to the right in the picture are the extensive grounds of the shipyard in front of the long rope walk, built as early as during the reign of Frederik II. In the background are the castle and town. View by Jan van Wijck, seen from the southeast (Lorenzen 1937, 63).

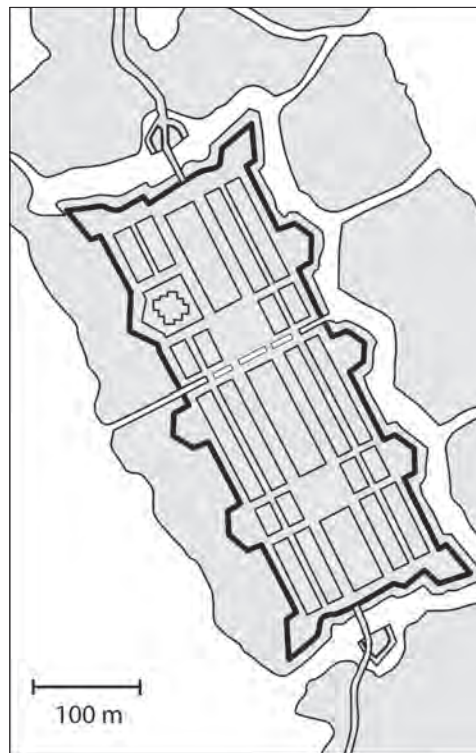
Fig. 7. The fortification of Varberg around 1645 as seen from the east. The tall bastions dominate the installation. The bastions are equipped with hidden emplacements where the bastions meet the ramparts. This offers the best position for sweeping the ramparts. Towards the north, where the castle entrance lies, the installation is reinforced with an outer courtyard. (Hermadies 1672 after Lorenzen 1937, 215)



350 m was marked out. Also present was Poul Bengtsson Bysser, who was entrusted to head the construction work. The town was established with a right-angled street system with two squares. The fortifications consisted

of tremendous earthworks. On each of the long sides toward the east and west were five big bastions. On the narrow sides toward the north and south, drawbridges were built in conjunction with the town's two gates, and the gates were further fortified (Fig. 8).

Fig. 8. Plan of the fortified commercial and garrison town of Christianstad. Work on the fortification began in 1614, but as late as 1629 the work had not been completed. Essentials parts were lacking and the shortage of funds was making itself felt. The king had apparently given priority to the construction of the town's monumental Trefoldigbedskirke (Trinity Church) in 1618–26. The town of Helgeå supplies the moats of the fortification with water (drawing S. Kaae after Lorenzen 1937, 162).



At the same time, at the opposite end of the kingdom down at the Elb River, the king created an entirely new fortified town called Glückstadt. The town was established almost out at the mouth of the river in a difficult terrain that required considerable dike work, which was begun in 1615. The king already had the Krempe fortification in the area, which he had supplied with bastions earlier (Fig. 9). At this point the navigation conditions of this town were made difficult by severe shoaling and the king had probably also become even more ambitious. The location was not a coincidence, for the Elb was an important fairway for all seaborne traffic into the major trading town of Hamburg. This gave the king the possibility to levy toll on the passing ships, which was an attempt to repeat the king's lucrative business collecting toll in the Sound. The plan for the new town was ready in 1516 and is thought to be prepared by the

Fig. 9. Plans of Krempe.

Above: The reconstructed lay-out of the fortified city in the second part of the 16th century under the reign of Christian III (1534–1559). The roundels are dominating. Beneath: The renewed and modernized fortification done by Christian IV (1588–1648) in the years 1595–1605. Now the new bastions have been installed (drawing S. Kaae after Norn 1949).

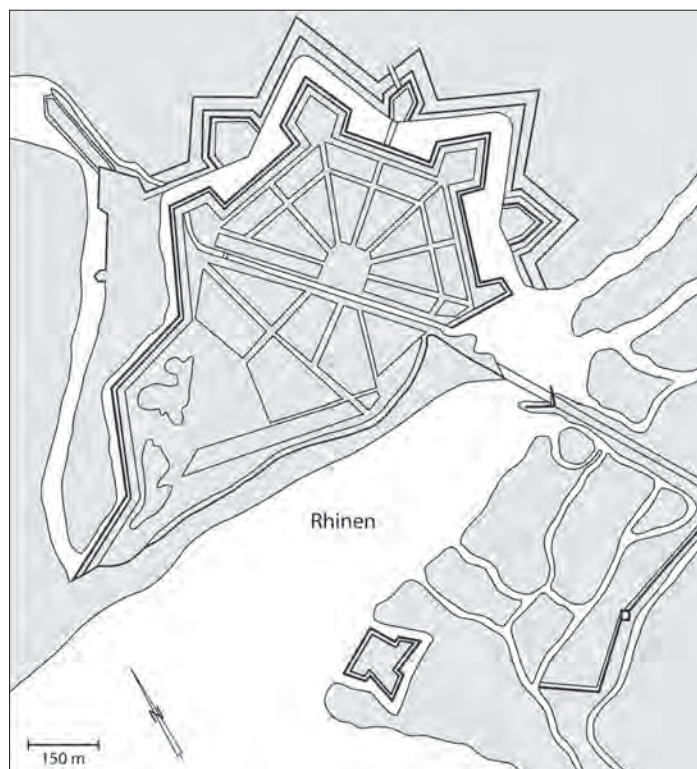
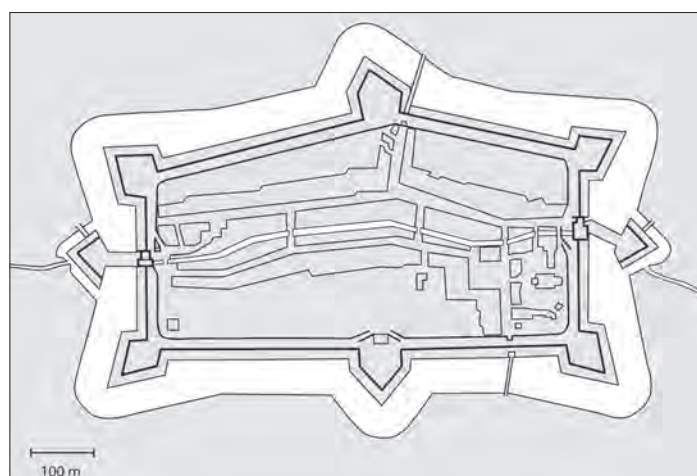
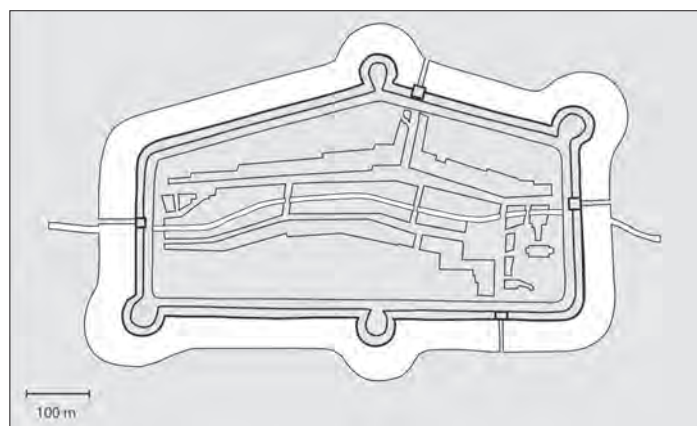


Fig. 10. Plan of the fortified town of Glückstadt about 1620 with its strictly lay-out (Redrawn by S. Kaae after Lorenzen 1937, 333).

Dutch engineer Johan Semp. He is known to have been responsible for the plans for above-mentioned Christianstad and the new part of Copenhagen, Christianshavn, which both were under construction at this time.

The eastern part of Glückstadt is organised as a polygonal circle according to the contemporary ideal plans for a fortified town (Lorenzen 1947b and 1951; Rasmussen 1949). The eastern half is closely structured, so that the square is in the centre and from this radiate a number of streets which are crossed by two concentric systems of ring streets (Fig. 10). The surrounding moat essentially consists of earthworks with bastions at each corner. The gates are reinforced. The eastern part is separated from the western part by a canal. On the western side, parts of a radial street system are also laid down. This was not fully realised, just as the system of moats was adapted to the local conditions and therefore differs considerably from the ideal plan (Lorenzen 1947b). The western part of the town was intended for trade and handicraft. The first part of the fortification work was finished in 1625.

In the following years the construction suffered severe flood damage. And during the Emperors War (1618–29) the town had been besieged for a long time and was seriously damaged, though without being captured, unlike most of the other fortifications further north in the Danish kingdom. The king granted the town exemption from taxes, and as a result of the good duties from the Elb Toll, which was introduced in 1630, the town began to thrive again. The recovery was

Fig. 11.
Christian IV's
flagship "Trekroner"
during the king's
expedition to England
in 1606. The ship
weighed 1500 tons.
A very big ship for
its time, built by a
shipbuilder called
in from Scotland
(engraving by
Hans Dirksen).



so great that it became necessary to add a new section to the town; in addition, the king built, among other things, a castle and a town hall. During the Torstensson War the town was besieged again, and again without being captured. In 1645 the Elb Toll was revoked, and a new flood three years later caused considerable damage and put a stop to the town's development for a long time. The same year saw the death of the town's protector, the king, whose dream this town was.

Following the Reformation in 1536, first Christian III and later Frederik II had improved the country's defence, but with Christian IV this development escalated. This king initiated the construction of many buildings, fortified many towns, built new castles, reinforced old ones so that they better met the requirements of the time, and improved the navy so that it was one of the strongest ones in Scandinavia (Fig. 11). He had close and good connections with the Dutch area, which was one of the places in northern

Europe where considerable developments were being made in technology, and where trade and production were flourishing. It was also in the Netherlands that many of the theoretical considerations of the art of fortification originated, ideas often originally developed in Italy but adapted by the Dutch to northern European conditions. The idea of an ideal plan for a fortified town occupied numerous prominent figures in many European countries at this time. As Christian IV had ambitions to be among the leaders in this field in northern Europe, it goes without saying that he also worked on developing these towns in his own realms. The number of towns and plans for more towns that were realised or conceived during the reign of Christian IV is quite overwhelming. The innovations in the art of fortification that seriously gathered momentum during the reign of Christian III, symbolised by the use of roundels, reached their zenith under Christian IV, in whose time the bastion, in all its variations, predominates, and the bastions

was used during the following centuries.

Christian IV was highly ambitious and made impressive achievements, and he was often personally involved in the smallest details of the construction work. Not until 1646 did Anders Bille prepare a plan for fortifying the entire kingdom that became a guiding principle for the fortification of Denmark as well as for its army and navy for the rest of the 17th century. But at this point it was almost too late. From being the leading

power in the region, Denmark slipped to second rank at the end of his reign. The many wars and the grand plans had created a severe economic slump. But the king's efforts had left many monuments. On one of them, Rundetaarn (The Round Tower), completed in 1642, is the inscription R. F. P., which has popularly been translated to "riget fattes penge" (the kingdom lacks money).

Translation: Stacey M. Cozart.

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Jan Kock
Medieval and Renaissance Archaeology
School of Culture and Society
Aarhus University
Moesgård Allé 20
8270 Højbjerg
Denmark
jan.kock@cas.au.dk



PART I: THE ROLE OF CASTLES IN POLITICAL STRATEGY

THE LIVONIAN WAR (1558–1583) AND THE RUINATION OF CASTLES, IN PARTICULAR KIRCHHOLM AND WENDEN

Ieva Ose



THE LIVONIAN WAR (1558–1583) AND THE RUINATION OF CASTLES, IN PARTICULAR KIRCHHOLM AND WENDEN

Ieva Ose, Latvia

ABSTRACT

The Livonian War (1558–1583) caused the destruction of the Livonian confederation that consisted of the Livonian branch of the Teutonic Order, the Archbishopric of Riga, and three bishoprics. The Livonian War ended with the defeat of Russia, but the territory of the former Livonia was divided between the Swedes and Poles. Many medieval castles suffered in the war – buildings were destroyed and people killed. The contemporary chronicles describe only the military actions. But the archaeological excavations, especially those undertaken in the castle ruins of Kirchholm/Salaspils in 1967–1975 and Wenden/Cēsis in 1974 and 2002–2005, have given new information about the layout of the castles before the war and also some evidence of how people suffered during the attack.

THE LIVONIAN WAR – A HISTORICAL INTRODUCTION

The Livonian War was a 25-year-long struggle among neighbouring countries for control in Livonia (the territory of present-day Latvia and Estonia). In the mid-16th century, the Livonian Confederation was ruled by the Livonian branch of the Teutonic Order, the Archbishop of Riga, and the bishops of Courland, Dorpat and Ösel-Wiek (Fig. 1). At this time the Hanseatic League had already declined and the Teutonic Order in Prussia had been secularised, establishing in its place the Duchy of Prussia as part of the Kingdom of Poland in 1526. In the 1520s and 1530s Lutheranism was victorious in the towns of Livonia. As a result, the

Livonian Master of the Order and bishops were left without support inside or outside the country. Therefore, in September 1557 Livonia accepted the protection of the Polish King Sigismund II Augustus. The Russian Tsar Ivan IV the terrible considered this a justification for war and invaded Livonia in 1558 (Dunsdorfs and Spekke 1964, 117).

As a result of the war, Livonia was divided. The Bishopric of Ösel-Wiek was bought by the Danish King Frederick II, and in 1560 he nominated his brother Duke Magnus of Holstein as bishop. In 1561, the order was secularised and the Duchy of Courland and Semigallia established in the south-western part of its territory as a Polish fief. Northern Estonia submitted to the Swedish king. In the central part of the territory, the Duchy

*Previous page:
Wenden/Cēsis Castle,
south wing of the
core of the castle and
West tower (photo:
I. Ose 2012).*

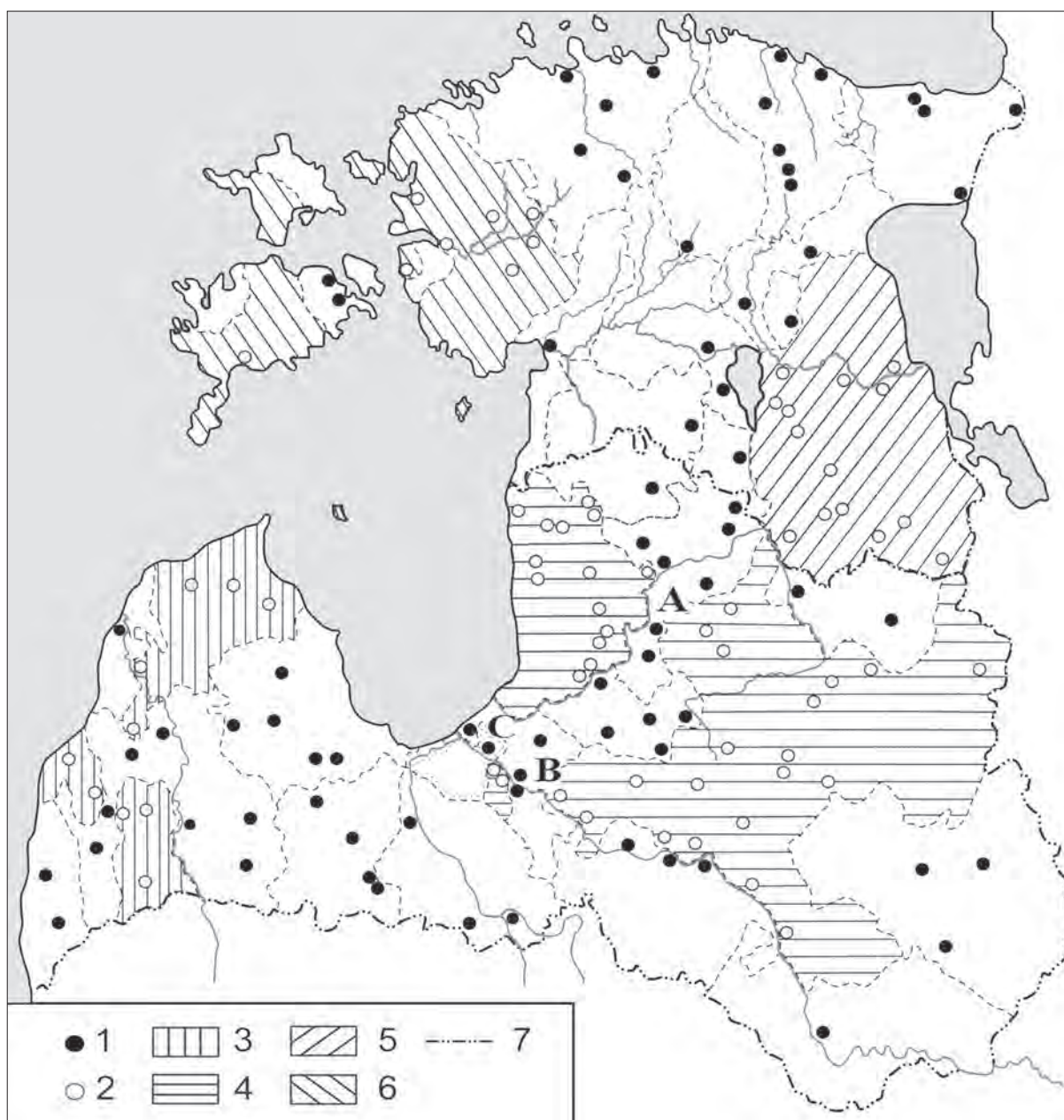


Fig. 1. Livonia in the mid-16th-century: 1 – Castles in the territory of the Order, 2 – Castles of the Bishops, 3 – Bishopric Courland, 4 – Archbishopric of Riga, 5 – Bishopric Dorpat, 6 – Bishopric Ösel-Wiek, 7 – Border of Latvia (in the Southern part) and Estonia (in the Northern part) today, A – Wenden/Cēsis, B – Kirchholm/Salaspiļs, C – Rīga (Drawing: I. Ose).

of Livonia was established, subordinated to the Polish king. In this territory the Polish-Russian struggle continued for twenty years. The Livonian War ended with the defeat of Russia, but as a result the territory of the former Livonia was divided and devastated, and many castles were abandoned.

During the Livonian War the eastern part of Livonia was twice plundered by the Russian army. In January 1558, the Russians invaded in Livonia at three places – near Narwa/Narva, Neuhausen/Vastselina and Ludsen/Ludza – and were initially successful in conquering a huge territory (Dunsdorf

and Spekke 1964, 118). In 1560, the Russians invaded Livonia again to plunder various castles. Russow's Chronicle describes how the Russians burned down several castles, killed people in the districts, plundered estates and then went back to Russia (Rusovs 1926, 81; Russow 1845). The Russians had only short-term victories, but because of their unusual cruelty and atrocities against the local inhabitants Tsar Ivan IV earned the byname "the Terrible". A woodcut from this time, printed in Nuremberg in 1561, shows cruel Russian-Tatar soldiers murdering women and children in Livonia (Boockmann 1990, 137, Fig. II.8.25).

In 1570, the new rulers of the divided territory of Livonia – Sweden, Denmark and Poland-Lithuania – signed a peace treaty, leaving Russia potentially isolated. Therefore, the tsar began diplomatic activities. Magnus, the brother of Frederick II of Denmark, who had been set up as the Bishop of Ösel-Wiek and Courland, agreed to marry the niece of Tsar Ivan the Terrible, and became his vassal and titular King of Livonia. But the territories of the new kingdom still had to be conquered. During the second Russian invasion of Livonia, Magnus briefly fought for control of them, but soon lost Ivan's favour. In 1578 Magnus renounced his title of King of Livonia, after which he became a Polish vassal and lived in Piltene, Courland until his death in 1583 (Zelenkovs 2000).

In 1577, Ivan the Terrible began a second invasion of Livonia. Russow's Chronicle describes how the Russians invaded near Marienburg/Alūksne and devastated the districts of Ludsen/Ludza, Rositen/Rēzekne etc. (Russow 1845, 242). At the beginning, Magnus appealed to the Livonians to capitulate voluntarily. The inhabitants of several castles opened the gates to the Russians without a struggle, but this did not save them. The chronicle indicate that people in Sesswegen/Cesvaine were brutally killed or taken prisoner, the inhabitants of Berson/Bērzaune and Kalzenau/Kalsnava were allowed to leave their castles without their

possessions and at Kokenhusen/Koknese the Russians brutally killed more than 50 men. People from the castles of Schwanenburg/Gulbene, Tirsen/Tirza and Pebalg/Piebalga were captured, and at Erlaa/Ērgļi a large number of locals were murdered. The castles of Wolmar/Valmiera, Ronneburg/Rauna, Trikatēn/Trikata and Smiltēn/Smiltene were also taken by the Russians. The rich property of the noblemen from the surrounding districts was brought to the castles, so the Russians everywhere obtained a lot of money and jewellery as booty (Russow 1845, 242–245, 290).

There is no written information on the extent of the devastation at the occupied castles. The chronicles mention only few destroyed stone walls. Perhaps, the Russians mostly murdered people, plundered treasure, vandalized and burned interiors, whereas the castle structures themselves did not suffer much damage. But the local inhabitants were killed or captured, and the boundaries and land ownership changed, therefore only some castles were renovated and inhabited after the war. As there are insufficient written sources, archaeological excavations provide important evidence. For illustration, two castles will be examined – Kirchholm/Salaspils and Wenden/Cēsis.

KIRCHHOLM CASTLE IN 1577 – SOME WRITTEN AND ARCHAEOLOGICAL EVIDENCE

During the second Russian invasion in 1577, when one Livonian castle after another was occupied by Ivan the Terrible, the inhabitants of Riga did not want to leave important fortifications near the town as an easily captured resource for the approaching Russians. Therefore, at the end of August they themselves burned down and some days later destroyed Kirchholm Castle, which had belonged to the Order before the Livonian war (Renner 1876, 379).

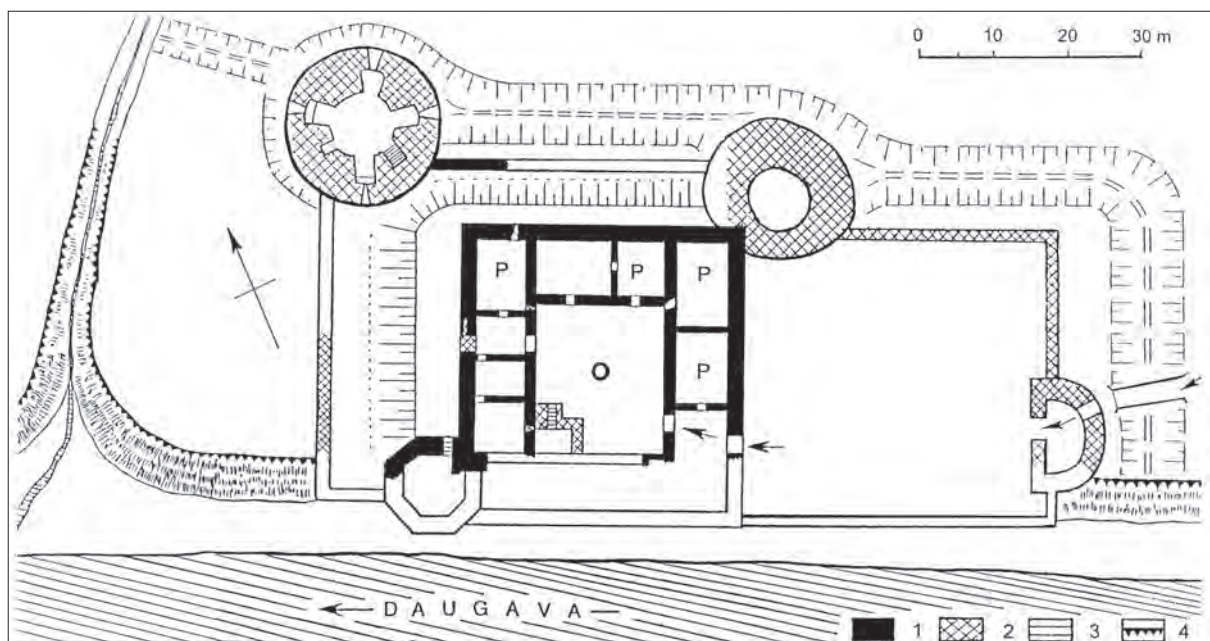


Fig. 2. Kirchholm/
Salaspils Castle,
walls discovered by
excavations (photo:
A. Stubavs 1971,
Ose 1998, 392).

After the war, this castle was not restored, and was uninhabited from the end of the 16th century. By the 20th century, only a few parts of the stone walls remained standing. From 1967 to 1975, before a hydroelectric power station was built on the River Daugava, the foundations of the core of the castle and a part of its outer bailey were uncovered in the course of excavation by the archaeologist Adolfs Stubavs (Fig. 2) (Stubavs 1972; Stubavs

1976). Using the excavation records, the plan of the castle before the Livonian War has been reconstructed (Fig. 3) (Ose 1998, 407, Fig. 12). It was established that the castle had been modernized in the first decades of the 16th century – new cannon towers were built, the lower parts of the outer walls of the main building were covered with a 3-m-thick earth layer and the outer bailey was enlarged (Fig. 4) (Ose 2007, 138–139). It is not possible to

Fig. 3. Reconstructed
layout of Kirchholm/
Salaspils Castle:
1 – 14th century,
2 – Beginning of
the 16th century,
3 – Reconstructed
walls,
4 – Bank of the
River Daugava
in 1970 (Ose
1998, 407).



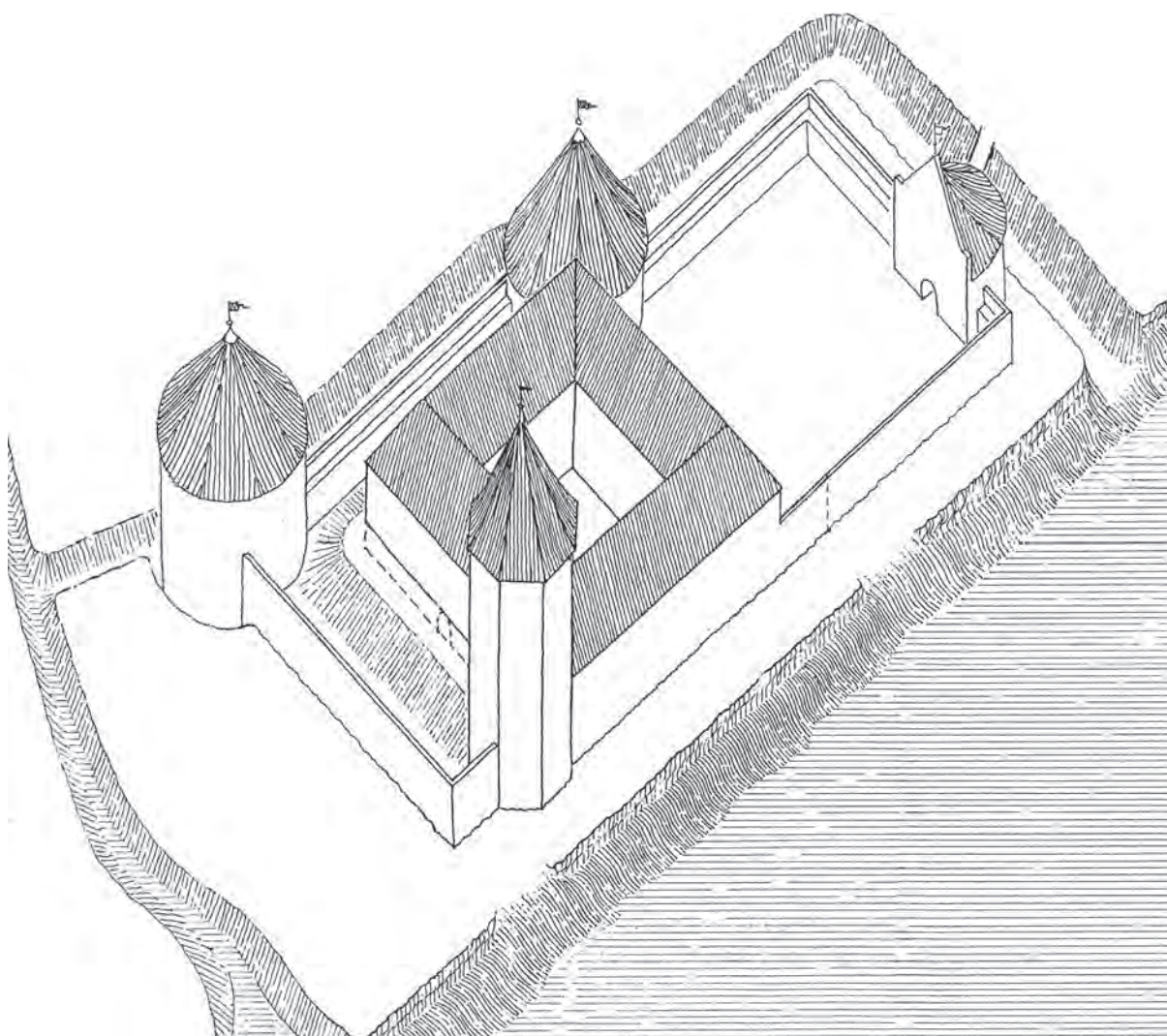


Fig. 4. Kirchholm/
Salaspils Castle in
the 16th century.
Reconstruction
(drawing: G. Jansons,
Ose 2007, 139).

judge whether all these activities could have been sufficient to protect the castle during the Livonian War. As mentioned above, the castle was destroyed by the inhabitants of Riga themselves already before the Russians came.

WENDEN CASTLE IN 1577 – DESCRIPTIONS IN THE CHRONICLES

Important evidence of the Livonian War is connected with Wenden. The contemporary chronicles describe the dramatic events in 1577 as follows (Rusovs 1926, 166; Renner

1876, 378–379). On 31st August the Russian army came to the town Wenden, which was unable to resist. The Livonian king Magnus emerged from the castle to meet Tsar Ivan the Terrible in order to intercede on behalf of the besieged. Just then an accidental shot came from the castle and the tsar swore that not a single person in Wenden would be spared death. The Russians broke into the town, but the residents of the castle resolved to resist. On 4th September, the Russians started a five-day-long bombardment of the castle. Being in great despair and having heard about Russian atrocities in other occupied Livonian castles, the noblemen and women in Wenden resolved not to let themselves be captured and

tortured by the Russians, and sought death through suicide, by blowing themselves up. Several hundred inhabitants, old and young, gathered in one room and received the sacrament. Solomon Henning's Chronicle describes the tragedy in the following words: "Man and wife held each others' hands, children gathered around their parents, some still nursing at their mothers' breasts, all awaiting blessed St Simeon's hour. Nor, as the Muscovites soon hereafter began to storm and invade the castle, was it long delayed. The gunpowder was ignited and all were blown up, aside from those who had hidden elsewhere in the castle" (Henning 1992, 61a; Henning 1848, 352). Then the chronicle mentions only that in January 1578, when the Russians had already left Wenden, the ruins in the castle were removed and the dead were buried.

For a long time it was not clear to historians in which part of the castle the blowing-up had taken place. Although several contemporary authors described the tragedy in Wenden as a huge mass suicide, their information differs in detail. Renner's Chronicle mentions that the people gathered in the *reventer* (i. e., *Remter*) – the dining room of the castle (Renner 1876, 378); the Nienstede Chronicle indicates one of the towers as the place of this event (Nyenstaed 1839, 80); and one of Fugger's messengers reported that the vaulted chapel was blown up (Dunsdorfs and Spekke 1964, 164).

The earliest plans of Wenden Castle were drawn in the 17th century by Swedish military engineers, but these appear to show only the chapel of the castle as ruined (Fig. 5) (Ose 2011: 485; Fig. VIII, IX). Some parts of the castle were inhabited until the beginning of the 18th century. During the 19th century, interest in ancient monuments increased and the idea became widely accepted that it was the chapel that had been blown up in 1577, because its walls in the northern wing of the core of the castle had survived in very poor condition (Löwis of Menar 1890, 74).



WENDEN CASTLE IN 1577 – ARCHAEOLOGICAL EVIDENCE

In 1974 archaeological excavation was begun by Zigrida Apala in the western part of the inner yard of Wenden Castle, providing the first new information about the tragic events in 1577 (Apala 1983). During the archaeological excavation in 1974 and 2002–2005 several more cellars were discovered at the western side of the inner yard (Fig. 6, 7), and the layout of the previously unknown western wing of the castle was drawn (Apala and Ducmane 2006, 11). Excavation provided evidence that this particular part of the castle had been destroyed during the Livonian War.

Fig. 5. Wenden/
Cēsis Castle, layout
drawn by Johan
Palmstruck in 1690s.
Fragment (Swedish
Military Archives
in Stockholm).



*Fig. 6. Wenden/
Cēsis Castle, south
wing of the core of the
castle and West tower
(photo: I. Ose, 2012).*

In one cellar under the stone ruins and wooden ceiling beams, which had fallen down from the upper levels, six skeletons were uncovered in unnatural postures and with broken bones. There were two young women, aged 20 to 25, one child about six or seven years old, one baby and two more adults with skulls so badly fragmented that it was not possible to establish their age or sex. Several golden and silver coins were found near a skeleton, the youngest minted in 1577. This was an evident indication of the tragedy during the Livonian War (Apala 2001, 201–202).

Near one female skeleton, a silver belt was found, fastened to which were three keys and a knife sheath, and from her small bag there remained some fragments of leather, silk fabric, brocade ribbon and a rosette. In the bag was a folded silver spoon and fork, several coins, silver and red glass beads, bronze buttons, a thimble and some parts of

a golden chain. Near the bronze keys were found the remains of woolen and silk fabric from women's clothes (Apala 1983, 17).

Found near the skeleton of the second woman was an iron axe with the remains of a wooden handle – perhaps used as weapon for self-protection. Over the knee of the woman was part of a golden chain with fragments of fabric, seven whole golden coins and one half-coin, as well as three silver coins and two pendants. The remains of luxurious clothes and the dating of the coins indicated that these were noble women and their children. They bear witness to the tragedy in the castle in 1577, when several people had hidden in the cellar, but were killed and buried during the explosion in the upper floors by the destruction of the walls and ceiling, which crashed down (Apala 1983, 19).

In 2012, a new exhibition in Cēsis History Museum was opened and one new exhibit was added – a reconstruction of the head

of one of the Livonian women killed in the explosion of 1577. Richard Neave, an expert in anatomical art from Manchester University, has recreated her face from the skull and remains of light coloured hair found in the course of excavation in the castle ruins (Kalniņš 2012).

During the excavation by Zigrīda Apala in the castle in 1985, some more witnesses of the Livonian War were found on the western slope outside the stone wall under several meters of cultural layers. The skeleton of a Russian soldier killed in 1577 was uncovered. An iron arrowhead had been shot into his knee-cap. At his neck was found an Orthodox cross made from mother of pearl, and by his side was an iron axe, scissors, a knife and a purse with 61 coins. Most of these were coins minted in the reign of Ivan the Terrible, but there were also some earlier Russian coins. These artefacts indicated that the soldier had belonged to the Russian army and had been killed during the siege of the castle, perhaps exactly at the time of the explosion, when the western wing of the castle was blown up, because the soldier lay under the ruins of the stone walls at a distance of 9 m from the outer wall of the castle (Apala 2001, 222–223).

During the excavation, a large number of coins was found. There are not only Livonian, but also foreign coins. One group is connected with the Livonian War. One irregular silver piece, about 2 cm in diameter, with the coat of arms of the master of the Livonian branch of the order Wilhelm von Fürstenberg and dated 1558, is a substitute coin. Such pieces were minted in extraordinary conditions. The numismatist Kristīne Ducmane considers that this was at the beginning of the Livonian War, when the master of the order had to finance Livonian soldiers who fought against the first Russian invasion (Apala and Ducmane 2006, 37).

When the excavation of the inner yard and cellars of the western wing was completed, it was possible to draw a new floor plan of



Fig. 7. Wenden/Cēsis Castle, uncovered foundations of the west wing of the core of the castle and North tower (photo: I. Ose, 2012).

Wenden Castle (Fig. 8) (Apala 2006, 11). For about a hundred years historians had used only the oldest plan from the 17th century, made by the Swedes, and the reconstruction of the castle's medieval layout drawn by Karl von Löwis of Menar at the end of the 19th century (Löwis of Menar 1890; Löwis of Menar 1922, 123–124; Fig. 71). Now it is clear that the core of the castle in Middle Ages included not three but all four wings around the inner yard. The western wing, built between the southern and northern wing, was blown up in 1577. After that its ruins were complete removed, the cellars filled and this area used as part of the inner yard. But until the explosion of 1577 Wenden Castle had four wings around the inner yard, like many other castles of the order in Livonia and Prussia. As one of the main residences of the master of the order, Wenden Castle was a grand, ostentatious building. After the collapse of Wenden Castle, the ruined wing was not rebuilt in the



Fig. 8. Layout of Wenden/Cēsis Castle after the excavations: 1 – Extant castle structures; 2 – Walls discovered by excavations; 3 – Archaeologically excavated area, 1974–2006 (Apala and Ducmane 2006, 11).

17th century, because by then the castle was no longer an important residence – it was used only as a local administrative centre. Therefore, in the 17th century only three wings were inhabited, two of which still stand as impressive ruins at the present day.

SOME CONCLUSIONS

The main political events during the Livonian War connected with castles are described in the contemporary chronicles written by Russow, Renner, Henning and others. They also mention several Livonian castles, which were abandoned after the war. But archaeological excavations have provided more detailed evidence – how the castles looked like before the war and which parts were destroyed. Especially important information comes from two excavated castles.

It was possible to reconstruct the layout of Kirchholm Castle only thanks to the records of the excavation undertaken in 1967–1975 by Adolfs Stubavs. The core of the castle was a regular building with four wings around the inner yard and was fortified before the war, when the outer bailey and new towers were built. The castle did not suffer from attackers, but was destroyed by the Livonians themselves. Only the lower parts of the stone walls were left standing, so it would no longer have been possible to use the castle as a fortification against Riga, had the Russians captured it.

Discoveries in the excavation by Zigrīda Apala at Wenden Castle in 1974 and 2002–2005 have given new evidence of the layout of the western wing of the core of the castle, which had not been renewed after the war and was not known before. The excavation has also provided evidence about the tragic death of the inhabitants in 1577 during the attack by the Russians.

As a result of the Livonian War a large number of medieval castles were abandoned, because some of the fortifications and residential premises had been destroyed. But the main reason why the castles were not rebuilt was the change of borders and ownership: the new landowners did not need all of the former fortifications.

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Ieva Ose
Institute of Latvian History
University of Latvia
Kalpaka bulvaris 4
1050 Rīga
Latvia
ieva@lza.lv

The background of the cover is a photograph of a landscape. The top half shows a dense forest of bare, thin trees against a pale sky. The bottom half shows a grassy hill with some snow patches at its base. A dark blue horizontal band is superimposed over the middle of the image, containing the title and author's name in white text.

PART I: THE ROLE OF CASTLES IN POLITICAL STRATEGY
CASTLES AND WAR IN 13TH CENTURY LIVONIA AND
ESTONIA ACCORDING TO HENRY OF LIVONIA

Carsten Selch Jensen

CASTLES AND WAR IN 13TH CENTURY LIVONIA AND ESTONIA ACCORDING TO HENRY OF LIVONIA

Carsten Selch Jensen, Denmark

ABSTRACT

Crusader castles and local strongholds played a crucial role in the processes of Christianization and colonization of the Baltic region around 1200 AD. They served as powerbases for the various players in the region, creating safe havens from where they could control the country, withstand attacking enemies, secure their own lands, and offer places of safety and protection for the local population in times of unrest. The construction of these castles and local strongholds, and their use in times of war, is described in great detail in the Chronicle of Henry of Livonia, considered to be the single most important source to the history of Livonia and Estonia from the 1180s until the late 1220s, when German and Scandinavian crusaders waged war on the local tribes. In the chronicle, Henry describes warfare in great detail, and from the text much is to be learned about castles and strongholds in war, how they were defended, and how sieges were carried out. This article will present some of the most prominent cases from the chronicle, thereby shedding some light on the use of fortifications during the Baltic Crusades.

CASTLES AND OTHER STRONGHOLD IN THE EARLY BALTIC CRUSADES

Castles and local fortresses played an important role in the processes of christianization and colonization of Livonia and Estonia in the late 12th and early 13th centuries.

In this article, I use the English term 'stronghold' covering all the various fortified places found in the region, whereas the term 'castle' is used only for the structures built by the German and Scandinavian crusaders. The terms 'fortress' and 'hillforts' designates any of the local strongholds in the region.

The various terms found in the sources is discussed in Mugurevics 1996.

Each of these fortifications served as a powerbase for the various players in the region during these violent decades, functioning as safe places from where they could control and protect the surrounding countryside, harass and oppose attacking enemy forces, and act as places of refuge for the local people when hostile forces were raiding and plundering a particular region (Urban 1973, 526–527) (Fig. 1).

The primary source – apart from archaeological investigations – regarding these early crusader castles and local

*Previous page:
Satezele stronghold
(photo: J. Sedols,
Panoramico 2015).*



Fig. 1. Places mentioned in the text (drawing: K. Atzbach).

fortresses in Livonia and Estonia during these early decades is the Chronicle of Henry of Livonia completed in the year 1227 (Tamm et al. 2011, xviii). In this chronicle, Henry describes not only the efforts of the first missionaries and priests to Christianize the local people, but also, with a high amount of credibility, how wars were fought and sieges conducted in these lands, when enemy strongholds had to be captured, and one's own castles defended against invading hostile armies (Lang and Valk 2011, 292 and 296). In this article, we will look at how Henry depicts the role of castles and strongholds in the long-lasting wars that were fought in what is now Latvia and Estonia from the late 1180s until the late 1220s. The primary editions of the chronicle (henceforth HCL) is Arbusow and Bauer 1955; Bauer 1959; English translation: Brundage 2003.

CLASH OF CULTURES – THE FIRST STONE CASTLES IN LIVONIA ACCORDING TO HENRY OF LIVONIA

In his chronicles, Henry describe the construction of the first two known stone castles to be built in Livonia in the mid 1180s in the villages of Üxküll/Ikskile and Holme/Martinsala, both situated close to the River Dvina/Daugava. These two small castles were built in accordance with the customs of castle building in Western Europe with the one in Üxküll (Fig. 3) serving as the fortified seat of bishop Meinhard, who had been appointed in 1186. According to the chronicle, he had made a bargain with the local Livs; if they would accept Christianity he would have the two castles erected as protection against marauding Lithuanians. In the chronicle, Henry even claims that the

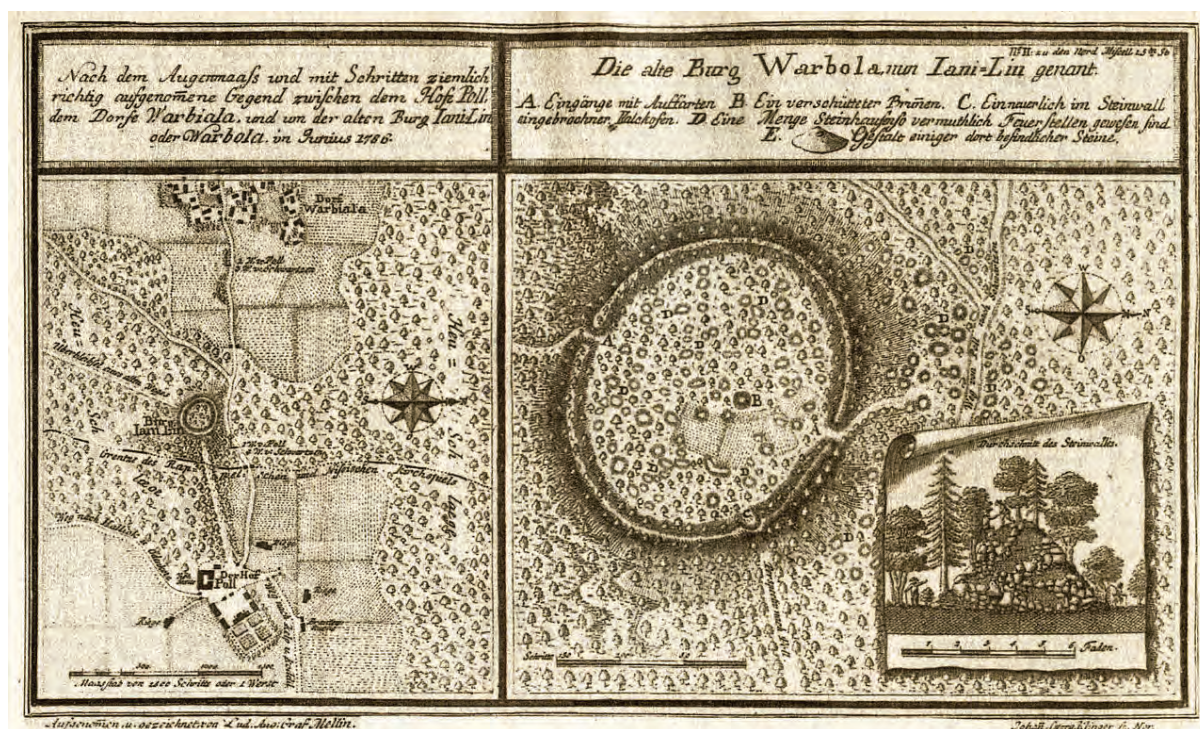
local Livs did not have any strongholds of their own, thus making them easy targets for the plundering Lithuanians (HCL I, 5). That is hardly true since local strongholds, hill forts, and various other types of fortresses were quite numerous in the region long before the Germans arrived there (Tuulse 1942; Mäesalu 1996). However, it is important for Henry to make the first missionaries stand out as the true guardians of these still pagan and/or newly Christianized Livs by offering them protection against their enemies. Scholars have long since pointed out that the most important assets of the German and Scandinavian colonizers in the Baltic Lands were the heavily armored knights on strong horses, the powerful crossbows, and impregnable stone castles (Jensen 2001, 126–127; Jensen 2011, 252; Murray 2013, 30–31). This is exactly the picture presented in the chronicle. Meinhard is said to have called-in stone masons from Visby on Gotland for the construction work thus erecting the first two stone castles in Livonia. As soon as the construction was completed, Meinhard settled in his new fortified bishop's castle together with a small armed retinue of crossbowmen (*balistarii*) (Jensen 2011, 142). Henry even claims that some of the locals thought they could destroy the newly erected castles simply by using robes and hooks to tear down the stone walls (HCL I, 6). This may very well be a literary invention by Henry but it is used in the chronicle to accentuate the superior German castles compared to the local strongholds and hillforts.

During the reign of the next two bishops, Bertold and Albert, more stone castles were erected in Livonia and Estonia. Most of these first castles were initiated by the bishops and their vassals, later on also by the Sword Brethren, a locally founded knightly order, and by Danish and Swedish magnates as well as crusaders. Quite a lot of these 'crusader castles' often had to be built out of wood in a hurry, eventually being replaced by more sturdy stone structures (Jensen 2011, 254–255; Mungurevics 1996, 121).

A LAND OF STRONGHOLDS, HILL FORTS AND CASTLES

As indicated above, it would be a huge mistake to think that there were no strongholds in Livonia and Estonia prior to the above mentioned crusader castles. Even if the locals were unfamiliar with the type of stone constructions used by the Germans and Scandinavians, there certainly were quite a lot of strongholds, hill forts and various other types of fortresses in all of Livonia and Estonia at the time of the arrival of the first missionaries and crusaders. Archaeological surveys have revealed several thousand fortified places in both Latvia and Estonia covering both Iron Age and Medieval type fortresses. Most of these locations probably served as places of refuges to the local peoples in times of war and general instability even if some of them seem to have been of greater importance as local and regional military, political, economic, and probably also religious centers with additional huge settlements (Messal 2004, 243–244; Tõnisson 1985, 106–107).

From the archaeological data and the written sources it is evident that some of the local pre-Christian fortresses were indeed very small makeshift constructions consisting mainly of a few cut down trees placed in a rough circle. One of these makeshift strongholds is described by Henry: 'Finding few people, they went into the forest, where in the densest part of the woods the pagans had made a certain enclosure. They had felled the great trees on all sides so that when the army came they could save themselves and their possessions' (*...procedunt ad silvas, ubi in nemore denissimo pagani indaginem quandam fecerant et arbores magnas circumquaque succiderant, ut veniente exercitu se et bona sua ibi salvarent*) (HCL XV, 7; Brundage 2003, 117). Others were huge constructions with impressive earth ramparts supported sometimes by stone and extensive timberwork and palisades, for example the important Estonian fortresses of Fellin/Viljandi, Warbola/Varbola, and also



the fortresses of Mone and Waldia/Valjala on the islands of Moon/Muhu and Ösel/Saremaa that were the last pagan fortresses to be conquered by German crusaders in 1227 (Messal 2004, 243–244; Tõnisson 1985, 100). With regards to Warbola (Fig. 2), Henry states that it was a sort of gathering place for rebellious Estonians wanting to expel all foreigner from the country in 1222 (HCL XXVI, 5). In 1212, a huge Russian army from Novgorod allegedly laid siege to the fortress but ended up accepting an enormous amount of money before giving up the siege and returning home – apparently Warbola was too strong for them to conquer (HCL XV, 8).

The Russian principalities bordering Livonia and Estonia quite naturally had their own strongholds – one of these being the much contested border fortresses of Dorpat/Tartu. Also the Swedes and the Danes constructed their own castles in the northern provinces of Estonia in the early decades of the 13th century, hoping to be able to subdue the conquered territories. The Swedes had a settlement in Leal and the most important

Danish fortification was the castle in Tallinn (Johansen 1951, 102–103; Zobel 2014, 29–33).

As indicated above, not all the crusader castles were huge and impressive constructions made out of carved stone. Henry mentions the Danish effort to conquer the island of Ösel in 1206 where the Danes constructed a small wooden fortress on the island in an attempt to subdue the fierce Öselians that were even roaming the coasts of the Danish realm in what is now southern Sweden. When the king and his army decided to return home, the intended garrison of this new stronghold did not dare to stay behind. Therefore the Danes themselves burned the place and left, indicating that such constructions did not have to be long-lasting affairs (HCL X, 13; Bysted et al. 2012, 195–196).

Often Henry also tells us that older fortresses and hill forts located at strategically important places were taken over by the invading crusaders from either Scandinavia or Germany – such information is quite often confirmed by archeological investigations (Mungurevics 1996, 121; Messal 2004, 251–253; Lang and Valk 2011, 294–295). The

Fig. 2. Warbola Stronghold fort plan 1786 (L. A. Mellin, Wikipedia 2015).



Fig. 3. Üxküll
(Caune, 1996).

Toompea Castle in present day Tallinn was one of these places. In the chronicle Henry states that '[t]hey all brought their army to the province of Reval and encamped at Lyndanise, which had once been a fort of the people of Reval. They destroyed the old fort and began to build another new one' (*Qui omnes applicuerunt exercitum suum ad Revelensem provinciam et resederunt in Lyndanise, quod fuerat castrum quondam Revelensium; et destruentes castrum antiquum aliud novum edificare ceperunt*) (HCL XXIII, 2; Brundage 2003, 173; Dubovik 1993, 38; Zobel, 2014, 26–27 and 31). It is very likely that something similar might have occurred when Riga was founded in 1201 with the new town taking the place of an older settlement that might also have contained some sort of fortification. The new-founded town itself became fortified with wooden palisades (during the years of 1201–1210) and eventually stone walls (from around 1207–1209 onwards) and also housed a small fortified castle of the Sword Brethren (Messal 2004, 248; Jähnig 1989, 132, 136 and 138). Henry has no clear references to an older fortified settlement, but he does mention a local tribe settling 'the Old Mountain, next to which the city of Riga is now built' (*... et habitantes in Monte Antiquo, iuxta quem Riga civitas nunc est edificata*), seemingly indicating

some sort of early settlement and fortification there (HCL X, 14; Brundage 2003, 66; Messal 2004, 251). Other places that witnessed such processes of structural transformations from a pre-Christian stronghold to a Western European type (stone) castles was the important stronghold of Treiden/Turaida that is frequently mentioned by Henry due to its importance as a religious and military center in Livonia. The new castle was even named 'Vredeland' meaning as much as 'Peace in the Land', in the vain hope that it might bring peace to the local people (HCL X, 10; XVIII, 3; Messal 2004, 251). Another such place was Kokenhusen/Koknese, located by the river Dvina further upstream from Holme and Üxküll, approximately half way to the Russian stronghold of Gerzike/Jersika. Kokenhusen had been conquered by the Germans in 1208 and they immediately began to rebuild the castle because of its strategic importance as a border castle guarding against marauding Lithuanians. Henry states that Bishop Albert sent some twenty crossbowmen and knights on horses. Part of the wooden castle was destroyed by fire, but accordingly it was rebuilt in stone from a nearby quarry (HCL XI, 8–9). Soon, the castle was to be tested in battle. In 1210, the Lithuanians attacked Kokenhusen, but the small garrison was able to withstand the attack (HCL XIV, 5). Following this failed attempt to destroy the castle, Henry later states that Lithuanian armies wanting to raid Estonia had to 'come to Kokenhusen seeking peace and a road to the Estonians. Peace was given, as was a road to the still unconverted Estonians' (*Hoc tempore venerunt Letones in Kukenois, petentes pacem et viam ad Estonos. Et data est pax et via concessa ad Estonos nondum conversos*) (HCL XVI, 8; XVII, 2; Brundage 2003, 132). Once again this castle was able to keep enemy forces at bay along the borders.

INSTRUMENTS OF WAR – SIEGE WARFARE ACCORDING TO HENRY OF LIVONIA

Apart from also being administrative centers, the castles quite naturally functioned as instruments of war guarding border zones against invading enemy forces and serving as military outposts in recently conquered territories. The castles would also serve as convenient places for armies to assemble before launching attacks into enemy territory. In Livonia, the armies normally consisted of several different elements and units depending on the nature of the conflict and the particular campaign that was planned. Most often the Master of the Sword Brethren would be in command of the army, bringing with him a number of his knights and foot soldiers from the various order castles. Normally, some crusaders would also participate. In the chronicle they are often referred to as ‘pilgrims’ (*peregrini*) serving in Livonia for one year before returning home (e. g. HCL III, 2). The retinue of the Bishops also participated in the campaigns along with the city militia of Riga. Additional units of Christianized Livs and Letts would also be summoned whenever the entire army was assembled. Henry is very specific about their duty to participate and claims more than once that they were heavily fined if they failed to show up when called upon for a specific campaign (HCL XI, 5). These local warriors were excellent scouts and were often employed as lightly equipped fighting men making quick sweeps against the enemy both during raids into enemy territory and when laying siege to an enemy stronghold. The heavily armored knight and the foot soldiers would act more in accordance with the tactical norms employed in German and Scandinavian armies around 1200 even if they eventually also became skilled raiders, setting up ambushes and conducting long range attacks into enemy territory, whether it was during the hot summer months or during the freezing winters. The sizes of the raiding

parties and armies varied greatly according to Henry, with as few as a dozen fighting men up to several thousand men-at-arms and local warriors (Murray 2013, 30 and 34). It was these men who conducted the sieges and defended the castles.

Essentially Henry describes two different types of sieges in his chronicle; those that were aimed at the castles built and manned by the crusaders, and those that were aimed at the fortified places of the local population, predominately the Lets, the Livs, the Estonians, and also the Russians.

When describing the sieges that took place against the German castles, Henry normally takes great care to portray the military superiority of the Christian men-at-arms fending off the attackers due to their better arms and superior fortifications and, of course, because God himself would be fighting on the side of the crusaders (Jensen 2011, 140–141). One such example appeared in 1206 when the Russian Prince, Vladimir of Polozk, tried to seize Üxküll and Holme, two small, strategically important castles in one sweep. According to Henry, there were no big garrisons in either of the castles – probably, no more than twenty men-at-arms each place together with a rather large number of local Livs who had sought refuge in the castles. Each of the two castles was commanded by a German knight, but Henry claims that the Russian did not know about the German garrison before they approached the castles and were hit by a hail of crossbow bolts fired from the castle walls, killing and wounding many of the attackers: ‘The Russians, however, were ignorant of the art of the crossbow, being familiar, rather with the bow’ (*Rutheni quoque, qui artem balistariam ignorant, arcuum consuetudinem habentes*). Still the Russians managed to wound several of the defenders in the castles with their bows. It was however not only with regards to crossbows and bows that the Russians seems to have been inferior to the Germans according to Henry. He also explains that the

Russians tried to employ the siege weapons of their German foes by constructing 'a little machine like that of the Germans, but not knowing the art of throwing rocks, they hurled them backwards and wounded many of their own men' (*Fecerunt eciam Rutheni machinam parvam more Theuthonicorum; sed nescientes artem lapidi iactandes plures ex suis post tergum iactantes leserunt*) (HCL X, 12; Brundage 2003, 63; Mäesalu 2011, 268–270; Turnbull 2009, 316). The incident accordingly forced the Russians to abandon the siege due to their lack of expertise in handling siege weaponry. More importantly, Henry sticks to his primary narrative in the chronicle in which the Christians from the West are superior to their foes in most situations even if this was not always the case in reality.

Also Riga itself came under attack. Strictly speaking, Riga was no castle even if the bishop and the Sword Brethren had their strongholds inside the city walls. Even so, the city certainly was a fortified place: initial with wooden palisades and additional fortifications to avert any attacking enemy, as in 1210, when several different hostile bands decided to attack this important Christian place to rid the country once and for all of the Germans. Most of the attackers came from Courland, and they approached the city from the river hoping to catch the Rigans by surprise at a time when there were only a few crusaders present in the city. Some fishermen however, saw the approaching Curonians and managed to warn the Rigans leaving some time for a hasty preparation: 'The citizen, the Brother of the Militia, and the [crossbowmen], few though they were, together with the clerics and the women, all had recourse to arms, and having sounded the bell which was rung only in time of war, they assembled the people' (*cives autem et fratres milicie et balistarii, essent licet pauci, cum clericis et mulieribus omnes ad arma confugiunt, sonitu campane, que tantummodo tempore belli pulsabatur, populum convocant...*) (HCL XIV, 5; Brundage 2003, 97). The Rigans did not wait for the attackers to come ashore. According to Henry the crossbowmen

rushed to the river and started firing at the attackers as soon as they came within range, making the riverbank the first line of defense during the threatening siege. The Curonians countered this by carrying before them huge wooden shields made out of planks supported by a staff that Henry describes as 'a pastoral staff' (*clavam...pastoralis*) (HCL XIV, 5; Brundage 2003, 97–98). Seemingly these shields resembled the late medieval pavises so common on European battlefields or the slightly larger movable shields employed only during static sieges (Housley 1999, 126).

The battle commenced at a second line of defense that was located 'in the field before the city gate' (*...in campo ante portam civitatis*) with the crossbows still being the primary defensive weapon. Henry also explains that the people of Riga burned down some houses and smaller dwellings that had been erected outside the protective palisades of the primary settlement. This additional settlement seem to have been erected shortly after 1207 to the southeast along the smaller river, Rīgebach (Jähnig 1989, 137). The purpose of the demolition was to deny the enemy of whatever cover the dwellings might have offered to the enemy and to clear the field of fire from the palisades and the city walls where the retreating crossbowmen and some throwing machines were employed to a great affect against the advancing Curonians. We are also told that the Rigans threw 'little three-pronged [iron] nails' (*...claviculos ferreos tridentes...*) on the roads leading to the city gate before retreating behind the walls. This was a highly effective defensive weapon against both mounted and foot soldiers mentioned more than once in the chronicle. The Curonians eventually surrounded the city but apparently lacked any proper siege equipment and soon had to abandon the place when a Christian army came to the rescue of the beleaguered city (HCL XIV, 5; Brundage 2003, 98).

Another important siege described in the chronicle happened when Bishop Albert

initiated an attack on the important Russian stronghold in Dorpat/Tartu located west of the Lake Peipus in a much contested border region serving as a base for Russian attacks into Livonia. In the summer of 1224 Albert summoned the army for a joint attack on Dorpat that was garrisoned by Estonians and Russians. The army arrived at Dorpat on the day of the Assumption of the Virgin Mary (15th of August). This was an important festival to the Livonian Church, which considered the Virgin Mary to be the supreme guardian of Livonia and for this reason the army was fighting beneath her banner.

It might very well be that Henry was present in Dorpat during the siege as had been the case on several other campaigns thus offering an eyewitness account of what happened during the fightings. He explains that the commanders followed the usual practice of dividing the army into two parts, one of which began plundering the countryside, gathering livestock and other supplies needed for the siege. The other half settled around the enemy fortress preparing themselves for the fighting, and Henry asserts that the fields around Dorpat were literally covered with tents (HCL XXVIII, 5; Brundage 2003, 223). The Livonian army immediately began to prepare the siege equipment. From other examples in the chronicle we know that the smaller siege engines would be carried in supply wagons ready to be employed as soon as the army had reached its destination (see for example HCL XIV, 10). In the text Henry says that '...they constructed *paterells* and smaller machines, prepared a great many instruments of war' (*machinas minores et paterellos construunt, instrumenta bellica quam plurima preparant*). He also mentions the constructions of 'hedgehogs' and 'swine' (*ericios et porcos*) that brought terror to the people trapped inside the fortress. Furthermore '[t]hey wounded many men atop the fort with the arrows of the crossbows, killed others with the missiles of the machines, and with the *paterells* they shot glowing irons or pots into the fort' (*balistarum*

sagittis multos in summitate munitionis vulnerant et alios iactibus machinarum interficiunt, paterellis ferrum ignitum vel ollas igneas in castrum proiciunt) (HCL XXVIII, 5; Brundage 2003, 223–224; Mäesalu 2011, 276–289; Turnbull 2009, 313). However, it was not only stones, glowing iron and pots that were fired from such siege engines. Mentioned in the chronicle are also dead animals that were hurled against the enemy either inside or outside a castle or a stronghold. One such incident happened in 1212 when some pagan Livonians mocked the Christian army besieging their fortress by throwing carcasses of dead dogs and goats that had been sacrificed to the pagan gods into their faces. Especially Bishop Albert seem to have gotten quite furious when the dead animals came raining down on him (HLXVI, 4; Brundage 2003, 127 and 129). We are also told in the chronicle that dead animals or even the corpses of dead enemies were used for polluting the water reservoir of enemy fortresses, especially if they had to rely on water from a moat (HL XX, 7; Turnbull 2009, 311).

Back in Dorpat, some of the German men-at-arms began to stack up piles of wood, trying to set fire to the wooden palisades on top of the earth rampart as a preparation for the final attack. Inside the fortress, the Russians and Estonians tried to counter the besiegers by employing their own counter siege engines that began lobbing stones and other missiles against the men outside the walls. Archers on the ramparts also fired arrows against enemies that came too close to the palisades (HCL XXVIII, 5; Brundage 2003, 224). The armies would not even rest during the night. Henry explains that the armies would fight all day and then start playing by night when '[t]he Livonians and the Letts made a clamor by pounding their swords and shields together. The Germans with their drums, pipes, and other musical instruments, the Russian with their instruments and their shouting, stayed awake every night' (*Livones cum Lettis concussione gladiatorum cum chypeis conclamantes, Theuthonici in tympanis et fistulis et ceteris instrumentis musicis,*

Rutheni cum suis instrumentis et clamoribus noctes omnes insomnes ducunt) (HCL XXVIII, 5; Brundage 2003, 224). The noise must have been unbearable, depriving most of the fighting men their much needed sleep as this clamor went on every night for more than a week! Thus siege warfare was also a very psychological type of warfare with both sides constantly trying to wear down the other part (Murray 2009, 297–305).

In the text Henry also mentions a ‘*propugnaculum*’, described as a ‘very strong wooden tower’ known also from other military campaigns. Accordingly, it took the army eight days to complete this huge siege tower from large trees that had to be cut down in the nearby forest – specialist craftsmen were probably in charge of the work. The tower had to be as high as the walls of the fort, and, when completed, the men-at-arms would push it across the moat close to the earth rampart of the fortress. Once there, part of the army started digging away earth from the rampart so that they could push the siege tower even closer to the walls preparing for the final assault. Henry states that the Germans and their allies worked night and day with half the men engaged in removing dirt from the lower part of the rampart and the other half shooting at the enemy on top of the battlement or protecting the workers against any sudden attack from inside the fortress attempting to destroy the tower with fire (HCL XXVIII, 5; Brundage 2003, 22; Turnbull 2009, 312). Nature could also be a threat to these huge siege towers. Henry explains how a strong wind in 1212 made one of them overturn during the night (HCL XVI, 4).

During the final attack at Dorpat, the German men-at-arms stormed the battlements from their siege tower, forcing their way into the interior of the fortress, followed by the less heavily armed local allies. Inside, the attackers started killing everybody, both men and women, even though Henry states that the latter would normally have been spared and sold as slaves together with

any children taken captive (Ghosh 2012, 93–96). According to the chronicle, it seems that the Russians kept resisting the attackers even after the outer walls had been breached. They probably sought refuge in an inner fortress but were eventually overwhelmed by the attackers. Only one Russian was left alive and released so that he could return home to tell about the conquest of Dorpat. After this, Henry says, the Livonian army collected whatever weapons, clothes, horses, and other types of booty they could find together with the surviving women and children, before they burned the whole place to the ground (HCL XXVIII, 6; Brundage 2003, 226).

SIEGE WARFARE DURING WINTERTIME

Summer campaigns were not the only type of campaigns in Livonia and Estonia. A difficult terrain with a lots of rivers, marshes and huge forests often made military campaigning difficult even during the relatively dry summer months and outright impossible during early spring and in the autumn (Benninghoven 1970, 635). Therefore, the winter months became a favored time for conducting raids into enemy territory. For that same reason the final attack on the Estonian strongholds on the islands of Moon and Ösel were mounted in early January 1227. An extreme cold had frozen all streams, rivers, and swamps solid, enabling both foot soldiers and mounted knights to advance towards the northern shoreline opposite the two islands. Even the Baltic Sea itself was frozen and the army continued out on the ice towards the islands ‘each formation with its own banner’ (*qui suas ordinantes acies, distincte cum vexillis propriis ambulantes...*) (HCL XXX, 3). The army made it all the way to Moon and quickly attacked the stronghold called Mone using their usual tactics of surrounding the fortress before employing their crossbowmen and siege engines against the defenders. Again Henry

mentions that a siege tower was constructed to enable the crusaders to reach the upper parts of the ramparts of the enemy fortress. The conditions were extremely difficult because of the cold weather and Henry tells that the crusaders could hardly climb the fortress walls due to its height and because of the icy surface that made it all too slippery for the attackers. Ropes and ladders had to be used by the attackers, besides the siege tower serving as a platform for the crossbowmen shooting at the enemy. Eventually the attackers managed to overcome the walls – according to Henry with the help of an angel lifting some of the knights to the top of the enemy fortress – eventually killing and capturing all the pagans inside (HCL XXX, 4). When the Öselians at the fortress of Waldia heard about the fate of their kinsmen in Mone and saw the approaching army and all its siege equipment outside their fortress they gave up seemingly without a fight, and thus ended the conquest of the last pagan strongholds according to Henry of Livonia during a harsh winter siege in 1227 (HCL XXX, 5).

Wars were fought in these parts of the Baltic, offering some very useful and interesting information on siege warfare both during the hot summer months and during the freezing cold winters. This makes the chronicle of Henry of Livonia a very interesting source when investigating the various aspects of castles and siege warfare as an integrated part of the processes of christianization and colonization in late 12th and early 13th century Livonia and Estonia.

CONCLUSION

As can be seen from the few examples described in this article, Henry of Livonia is quite detailed in his descriptions of castles and siege warfare in his chronicle. It is obvious that he knew a lot about warfare in general and certainly also about siege warfare in particular. This was probably partly due to his noble upbringing in northern Saxony, but certainly also had to do with his first hand experiences in Livonia and Estonia in the early decades of the 12th century where he more than once took part in the military campaigns described in the chronicle both as an interpreter and as an ordinary priest to the men-at-arms, who would risk their life during these campaigns and sieges. Therefore it is not at all surprising that the chronicle is full of highly detailed accounts of the ways

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Carsten Selch Jensen
 Department of Church History
 Faculty of Theology
 University of Copenhagen
 Købmagergade 44–46
 1150 Copenhagen K
 Denmark
 csj@teol.ku.dk.

PART I: THE ROLE OF CASTLES IN POLITICAL STRATEGY
NYBORG DURING THE COUNT'S FEUD (1534–1536)
WITH A CLOSER LOOK UPON THE CITY'S LATER RENAISSANCE
FORTIFICATIONS

Claus Frederik Sørensen

NYBORG DURING THE COUNT'S FEUD (1534–1536) WITH A CLOSER LOOK UPON THE CITY'S LATER RENAISSANCE FORTIFICATIONS

Claus Frederik Sørensen, Denmark

ABSTRACT

Nyborg Castle was built in the late 12th century/early 13th century as a red brick curtain wall castle. The castle was from the very beginning fortified with water filled moats – ideally giving optimal protection against attacking enemies. This paper will discuss how ineffective these fortifications proved to be during “Count's Feud” 1534–1536 when both the castle and town fell twice to enemy forces.

The Count's Feud erupted when King Frederick I of Denmark died the 10th of April 1533 without a clear successor for the throne. The main contenders for the crown were: Duke Christian of Schleswig-Holstein – the son of the late King Frederick I, and on behalf of the disposed King Christian II – Count Christopher of Oldenburg.

Nyborg Castle was one of the strongest castles in Denmark and a place where Danish nobles took refuge during the feud. It is a story of betrayal and ruthless behavior on both sides of the struggle with only one victor and the town of Nyborg in ruins afterwards. The paper will also discuss what was done afterwards to improve and strengthen the overall construction of fortifications surrounding Nyborg making it once again a mighty fortress.

There can be no doubt that the causes for the Danish royal fortification projects were numerous. Geographical conditions, economic conditions, trade, domestic, and foreign policy and prestige were all important factors that affected why, when and how the Kingdom's fortresses were built.

Renaissance fortresses serve as an excellent example of the knowledge sharing and cultural trends that spread across Europe. Such cultural currents are often complex and difficult to trace, leading to frequently unexpected results. The fortified city of Nyborg (Fig. 1) is an example of such unexpected outcomes.

The purpose of this article is to both summarize and add new knowledge about Nyborg during The Count's Feud 1534–1536, as well as combining it with new research on the fortifications that were built afterwards in Nyborg. Researchers Otto Norn and Bjørn Westerbeek Dahl have previously contributed important research on the subject but new research and perspective justifies a revisit – hence this article (Norn 1949 and Westerbeek Dahl 1995).

*Previous page:
Nyborg Castle
(photo: Østfjens
Museer 2013).*

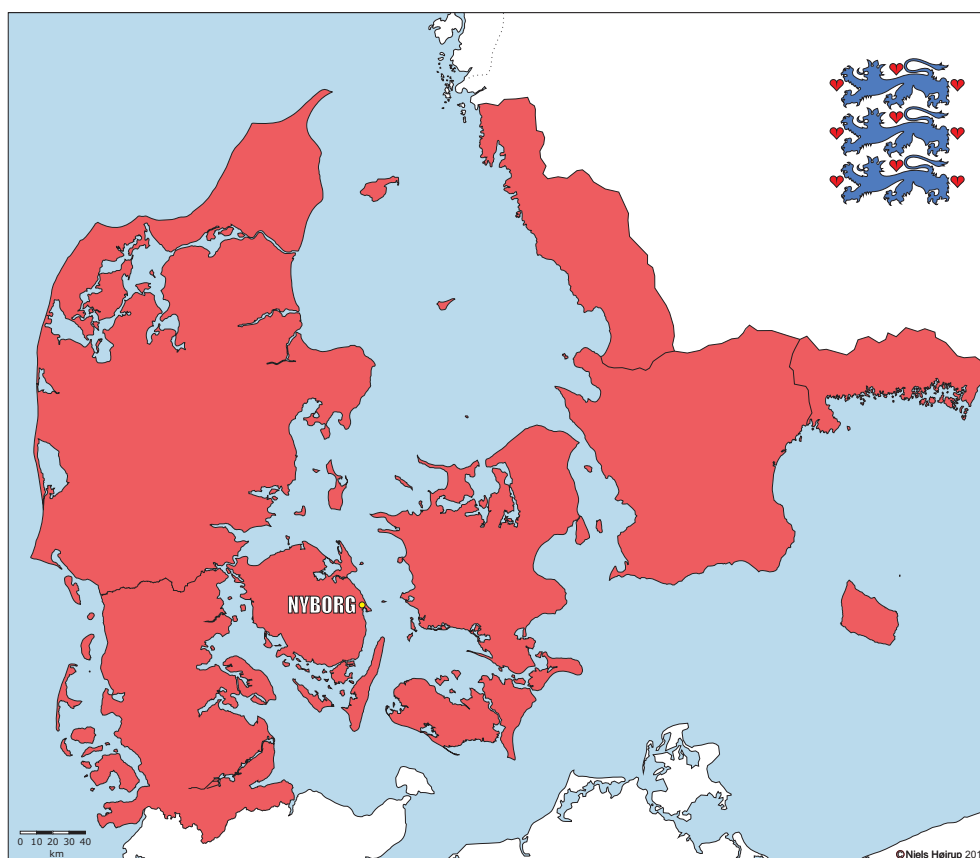


Fig. 1. Denmark in the 16th century. Nyborg is located in the middle of the country and is central to the country's infrastructure (drawing: N. Høirup 2015).

PRELUDE

In 1534, the Danish historian Poul Helgesen wrote in the *Skibby Chronicle* that King Frederik I (1523–1533), at his coronation in 1523, had to promise the Danish Council he would take up residence in the centre of the kingdom (Helgesen 1962, 157). This information is consistent with the fact that the Danish Council, in 1525, asked the king to reside permanently at Nyborg Castle – which the King agreed upon (Nye Danske Magazin 1827, 46).

The new Danish king managed to force the Danish Council to sign a letter of commitment, which stated that in the event of the death of the king, the heir to the throne was to be found among the king's family (Stabel 2007, 181). The natural first, and perhaps strongest royal candidate to the Danish throne, was the eldest son Duke Christian of Holstein. The duke was

however a strong Protestant believer, which was not well received among the Catholic-minded Danish nobility and clergy (Huitfeldt 1976, 187). Instead, they pointed to Duke Christian's younger half-brother Hans, who was subsequently brought up in the Catholic faith at Nyborg Castle (Fig. 2).

On the 10th of April 1533, King Frederick I died and unrest began to smoulder in the Danish kingdom. At Nyborg Castle, the Steward Oluf Rosenkrans no longer believed that Nyborg was a safe haven for the young royal Prince Hans. Because of general national insecurity, a large part of the castle's garrison had been sent to Sønderborg Castle, where the former Danish King Christian II (1513–1523) was held in captivity. Since the citizens and peasantry of Funen had great sympathy for Christian II, the Castle's Steward clothed the young Duke Hans and all his servants in peasant clothes and travelled, in secret, to Sønderborg Castle (Huitfeldt 1595).

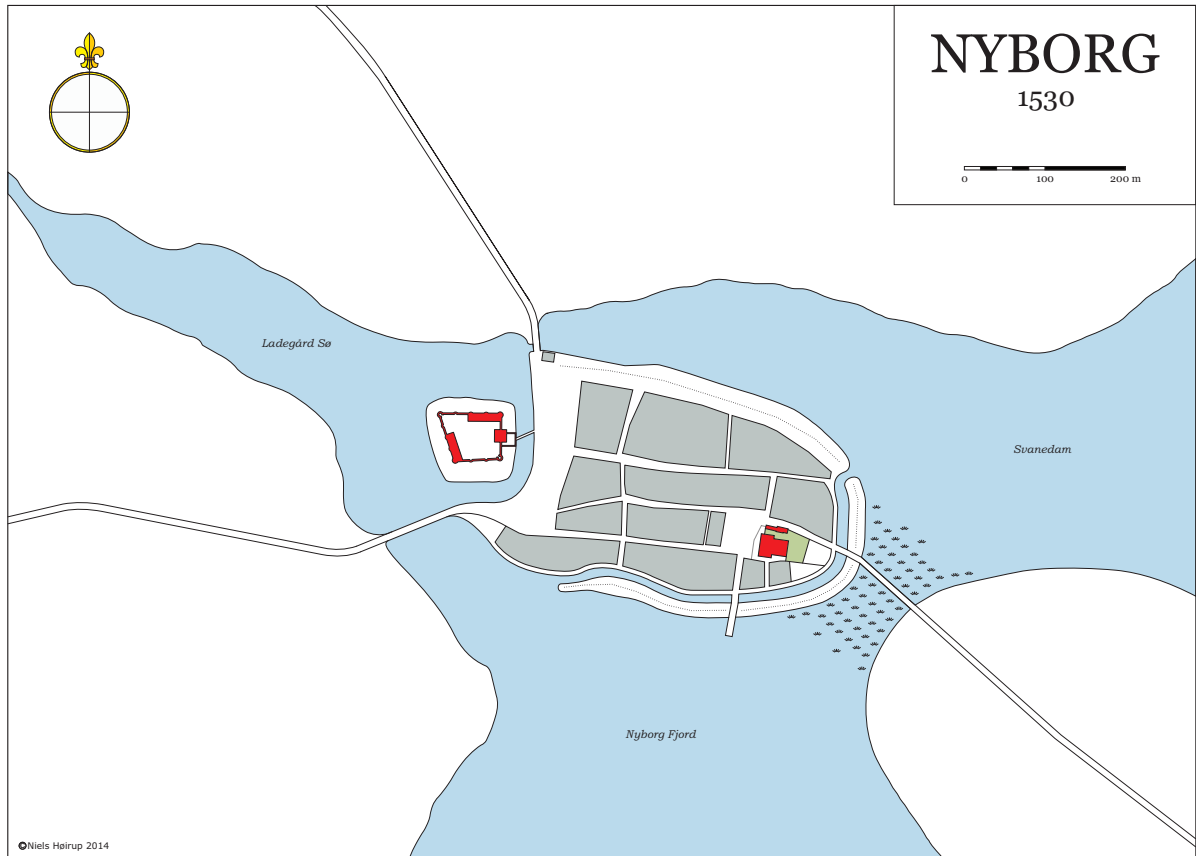


Fig. 2. Nyborg Castle, as it looks today, more than 800 years after construction first started (photo: Østfyns Museer 2014).

King Christian II was still considered a strong candidate for the throne, especially by the powerful commercial cities of Copenhagen and Malmö, who favoured the dethroned king and supported him in his claim to the Danish throne. The two cities allied themselves with the powerful Hanseatic city of Lübeck, who had long been unhappy with Danish rule and trade restrictions on Danish territory. Lübeck immediately asked Count Christopher of Oldenburg to assemble an army for an upcoming campaign to Denmark. The Count's Feud began with an attack against Holstein, where an army of 4000 men burned and ravaged the Duchy. The goal was to ensure that Holstein and Duke Christian did not come to the rescue when the count's army marched against Denmark (Simonsen 1813, 12). In June 1534, the count's army went ashore on Zealand and, after a few weeks of fighting, Christopher of Oldenburg had achieved total control over Zealand and Scania (Simonsen 1813, 15). The citizens and peasants hereafter hailed the count as their

saviour and many joined his army. On the island of Funen similar sympathy was shown towards the count and his cause. The island's nobility, their possessions and properties, suddenly became targets for looting, violence, and mayhem from citizens and peasants. Several nobles chose to flee to perhaps the only safe place on Funen, Nyborg Castle (Simonsen 1813, 19).

In response to the citizens' and peasants' revolt, the Danish nobility and Clergy elected Duke Christian of Schleswig-Holstein as king of Denmark. The commander of Duke Christian's army, Johan Rantzau, had by then won an important battle against Lübeck at the Battle of Eutin, and a peace treaty was signed between the duchy and the Hanseatic city. Johan Rantzau moved his army into Jutland and the battle for the Danish throne began in earnest. Around August or September 1534 the army crossed the little Belt (Lillebælt, the small strait between Jutland and Funen) and freed Funen from the rebellious citizens and peasants (Simonsen 1813, 25).



THE CAPTURE OF THE TOWN OF NYBORG, AND THE SIEGE OF THE CASTLE

On the 21st of September 1534, Count Christopher of Oldenburg sent his troops across the Great Belt (the strait between Funen and Sealand), and a military campaign began on Funen. The count quickly seized control of the cities Odense and Svendborg, after which his goal was to capture the mighty fortress of Nyborg (Simonsen 1813, 30) (Fig. 3).

According to the “*Oldenburgisch Cronicon*” from 1599, Count Christopher sent three companies with artillery to Nyborg. He hid one company, together with the artillery, outside the city, and with the remaining troops he began his attack. Inside Nyborg, one hundred and fifty riders gathered with the aim of escaping through the city gates. They succeeded, but outside they met the count’s

hidden troops with their cannons. It was a massacre. Subsequently, Count Christopher wrote to Lübeck about the battle. He mainly wrote about captured and killed nobles, and not much about the common soldiers or soldiers for hire; eleven nobles surrendered outside the city, three were mortally wounded, and thirteen nobles fell (Hamelmann 1599, 334).

In 1595, the historian Arild Huitfeldt wrote in his Chronicle “*Danmarks Riges Kronike – Christian III’s Historie*” that several of Duke Christian’s soldiers had resided in the town. The city seemed an impregnable fortress, but in the dead of night four of the city’s residents rode out of the city gates and let the Count’s people in. Most of Duke Christian’s soldiers, both from Holstein and Denmark, were subsequently killed, among them Peder Ebbesen, who together with Johan Rantzau, were the military leaders of the campaign on Funen. Several soldiers managed to seek refuge in the castle. Others

Fig. 3. Nyborg approx. 1530 immediately before the great Renaissance fortifications were built (drawing: N. Høirup 2014).



Fig. 4. Nyborg Castle and town approx. 1659 (Erik Dahlberg). Note the great Renaissance roundel south of the Castle.

were not so lucky, such as the nobleman Bertram von Ahlefeldt, who got shot in the leg and was left stranded outside the castle. A stable boy volunteered to swim across the moat (a distance of 20 m) and tied a rope to the nobleman, after which he was pulled to safety within the castle (Huitfeldt 1595).

The capture of the city was a blood bath. This summation is confirmed by the Danish historian Poul Helgesen in a chronicle (*Skibbykronikken*) from approximately 1534. He also says that Peder Ebbesen and Johan Rantzau failed to exploit their many victories and failed to continue their attacks against Count Christopher of Oldenburg. Thus, most of the army's soldiers were killed or captured except for the army commanders Johan Rantzau and Peder Ebbesen (there are conflicting accounts between the two chronicles here concerning whether Peder Ebbesen survived or not), who escaped shortly before the fighting began (Heise 1967, 188).

In the 1620s, the local vicar, Jørgen Hansen Stampe wrote about the same incident. The vicar says that the city's mayor Rasmus Rostock led the count's people into the city at night. The count's soldiers reportedly tied woollen garments around their horses' hooves, so they did not alarm the citizens of the impending attack, after which the city fell

to the count's troops (Jørgensen 1974, 136).

Historian Arild Huitfeldt writes that after a long siege the besiegers managed to cut off the castle's water supply which originally came from the water filled moats surrounding the castle and city. The water is led through an extensive system of channels from Kullerup approx. 6 km west of Nyborg, through Hjulby Lake and down towards the city, where a system of dams keep the water 3 m above sea level (Hahnemann 2004, 2). The only way to effectively sever the castle from its water supply was to break the dams either at the junction between the Castle Lake and the Swan Pond or at the dam, south of the castle. The water shortage caused mutiny in the castle, which resulted in a complete surrender. The defenders managed however to negotiate "safe passage" and were able to leave the castle in safety (Huitfeldt 1595).

Count Christopher recounted in his letter to Lübeck that four hundred people, including several noblemen, who had sought refuge in Nyborg to avoid violence and looting, were found in the castle after its capture (Fig. 4). The count took thirty five nobles as prisoners. At the same time the count recorded his own losses on Funen, which totalled five hundred soldiers and three hundred horses (Paludan-Müller 1853, 251).

NYBORG IS ATTACKED AGAIN

All over the country battles raged back and forth, and slowly the tide of battle began to turn against Christopher of Oldenburg. Christian III had formed an alliance with the king of Sweden, and subsequent battles in Scania and Halland between Swedish troops and the count's troops went Christian III's way. Additionally, his troops won several important battles in Jutland, including Aalborg in December 1534. A month later the peninsula was entirely in Christian III's hands. This allowed Commander Johan Rantzau to cross the little Belt and begin a new military campaign on Funen in January 1535 (Simonsen 1813, 39).

The campaign was successful, and soon after the decisive victory for Christian III at Øksnebjerg, commander Johan Rantzau stood at the gates of Nyborg. Arild Huitfeldt briefly describes what happened afterwards. It is said that the castle's steward Otto Stigsen surrendered to the elected king and a new steward for the castle was appointed (Huitfeldt 1595).

In the 1620s, the local vicar, Jørgen Hansen Stampe, wrote more on the incident, reporting that Duke Christian's soldiers managed to enter the city, and when they had secured the streets, the alarm was sounded. The count's soldiers were accommodated in the city houses, and when they rushed out, they were all captured. According to Hansen Stampe, it became a slaughter. The citizens only avoided life-threatening violence by staying indoors. The vicar also stated that after the battle the noble casualties were buried in a large pit at the city cemetery. All other casualties were buried outside the city walls (Jørgensen 1974, 136).

The Count's Feud ended with Christian III as the victor. In February 1536, peace was made throughout the country with the exception of the besieged cities of Malmö and Copenhagen, who surrendered shortly after – in April (Malmö) and July (Copenhagen).

NYBORG DURING THE REIGN OF CHRISTIAN III

After the Count's Feud, it soon became clear that the Kingdom's forts and castles were outdated and in poor condition. In 1538, Christian III wrote to his brother-in-law, Duke Albrecht of Prussia, to ask if Albrecht could take important political prisoners into custody, until the king's castles and fortresses were in better condition (Norn 1949, 111).

During the reign of Frederik I (1523–33), it had already been decided that the medieval fortress at Nyborg was to be rebuilt and strengthened. In 1532, a letter was sent to all counties on Funen stating that workers and peasants should be sent to Nyborg to work on the new fortifications (Erslev and Møllerup 1879, 411). The following year Frederik I died, and it is unclear how much work had been started or completed on the fortifications in Nyborg when Christian III came into power.

The Danish historian Otto Norn writes that after the Holstein marshal Melchior Rantzau's death in 1539, it was decided that King Christian III was to take permanent residence in Denmark (Norn 1949, 24). Melchior Rantzau had led the negotiations between Denmark and Holstein concerning the distribution of the accumulated debt after the Count's Feud. The Danish historian Astrid Friis writes that it was a requirement from the Danish Council, that if Denmark also were to pay for the debt after the Count's Feud, King Christian III had to reside permanently in the Danish kingdom instead of the Duchies of Schleswig-Holstein (Friis 1933, 299).

However, it is striking that Nyborg was heavily fortified shortly after, and that Christian III, in the following years, often took up residence at Nyborg Castle and ruled the country from there for long periods. It is possible that Christian III looked upon Nyborg as a central location from which potential conflicts to the south (Charles V) and potential conflicts to the east (Gustav Vasa)

could be safely handled – especially from a logistical and communication point of view.

From 1540, the work can be traced to Odense St. Knud Monastery's Archive, where building materials in the form of wheelbarrows, spades, shovels and wagons are mentioned as being sent to Nyborg (Christensen 1910, 205). This is consistent with a later source from the 1620s that states that the fortifications surrounding Nyborg were built at the request of Christian III and that the work went on for exactly eighteen years (the King died on the 1st of January 1559) (Jørgensen 1974, 134).

In the following years, work on the fortress can be traced in several letters and accounts. In 1547, the Danish nobility granted a tax for completing the fortress: One Danish mark for each peasant living on land owned by nobles, on Funen, and the Island of Langeland. Though, it seems the Danish nobility was not necessarily thrilled to co-finance the large fortress at Nyborg. In 1551 the King had to ask his steward at Nyborg Castle, Frands Brockenhuus, to write letters of complaint about missing payments (Bricka 1887–88, 93).

Christian III did not merely fortify the old medieval town, but also added a new district called "Nyenstad" to the city (Erslev and Møllerup 1879–1887, 437). The whole city was then surrounded by five huge roundels and ramparts. The inspiration for the major fortifications surrounding Nyborg is probably to be found in the vicinity of Braunschweig-Lüneburg. Christian III was in close alliance with the Dukes Franz and Ernst of Braunschweig-Lüneburg. The dukes were both present at the king's coronation in 1537, and the following year Christian III visited the ducal city of Celle to discuss joining the Schmalkaldic League – a league of central European Protestant princes and towns founded against the Holy Roman Emperor Charles V. It must have made a big impression on Christian III to see the ducal castles and fortresses. Thus, a few years later, a number of architectural similarities can be found in

Nyborg that are directly comparable with ducal castles and fortresses in Braunschweig-Lüneburg (Norn 1949, 178).

At the end of the 1540s, the great fortress approached its completion. In 1548 Christian III wrote to his steward at Nyborg Castle, Frands Brockenhuus, asking him to demolish an old rampart north of the castle and use the earth to complete a roundel at the city gate (*Danske Magazin* 1873, 85). The following year a Latin inscription was placed on the large central tower at Nyborg Castle saying: "King Christian, Frederik I's son, built the tower, renewed the castle buildings and built the city's fortifications in the year of our Lord 1549". There can be no doubt that the massive fortress must be attributed to Christian III, and that in the year 1549 the fortress was ultimately finished (Fig. 5).

Shortly thereafter, Christian III decided to upgrade the fortress with the very latest technology – Italian-style arrowhead-shaped bastions. On the 23rd of February 1551, the castle's steward Frands Brockenhuus was once again ordered to convene the crown's peasants on Funen, Langeland, Taasinge and the surrounding islands to work on the fortress. The farmers had to bring their own horses, wagons, buckets, spades and even their own food rations. Each farmer had to work, in all, four days at the fortress, after which they were registered, and a "sign" was given to them, so one was able to keep track of who had done his workload (Bricka 1885, 14). The order was repeated a year later on the 15th of February 1552, but this time the peasants had to work for six days, and again at their own expense (Bricka 1885, 120).

On the 9th of October 1557, King Christian III's wife Queen Dorothea, and their son-in-law Elector August I of Saxony, visited Nyborg. During this visit, the Queen wrote two letters to Christian III, and told him that the Elector was impressed with the large fortress, and that its construction was worthy of the king's reputation. The elector also said that if construction continued as now, it



would slowly but surely be finished (Wegener 1852–55, 74). The fortress was thus reaching its completion, or partial completion. This theory is supported by the fact that Nyborg is not mentioned in the Danish council's articles from the 15th of May 1557, which record the castles and towns where fortification work was urgent and necessary (Norn 1949, 63). The queen also wrote that construction work ideally should stop that winter, and that the king should send the workers home, as it would be too expensive and cumbersome to continue working throughout the season.

It would be strange if the elector would speak in such terms about a fortress that was not up to the latest and most modern standards; standards that had for over a decade been used in Saxony – the arrowhead-shaped bastion. Elector August even sent his architect Hans von Dieskau on a study trip to Denmark. The architect first visited Copenhagen and then Nyborg (where the

king himself was present during his stay) (Balle and Bolwig 1999, 244 and 290). Hans von Dieskau was already involved in building bastions in Leipzig in 1543 and later in Dresden (Norn 1949, 192). He therefore had foremost knowledge concerning the latest fortress technology and was later asked to build bastions at Kronborg Castle on Sealand.

Christian III's bastions can be seen on a map from the 1630's, made by the German officer Frans de Traytorrens (Fig. 6). The map shows the fortress as either unfinished or in disrepair (the uneven shading). Frederick II (1559–1588) never continued his father's grandiose building project in Nyborg but instead shifted focus from Nyborg to eastern Sealand. When one thinks of Nyborg's continuing role as an important fortress that controlled the east-west route through Denmark and the waterway through the Great Belt, it seems unlikely that the bastions, representing the very latest and modern

Fig. 5. Nyborg 1549. Note the five roundels (drawing: N. Heirup 2014).

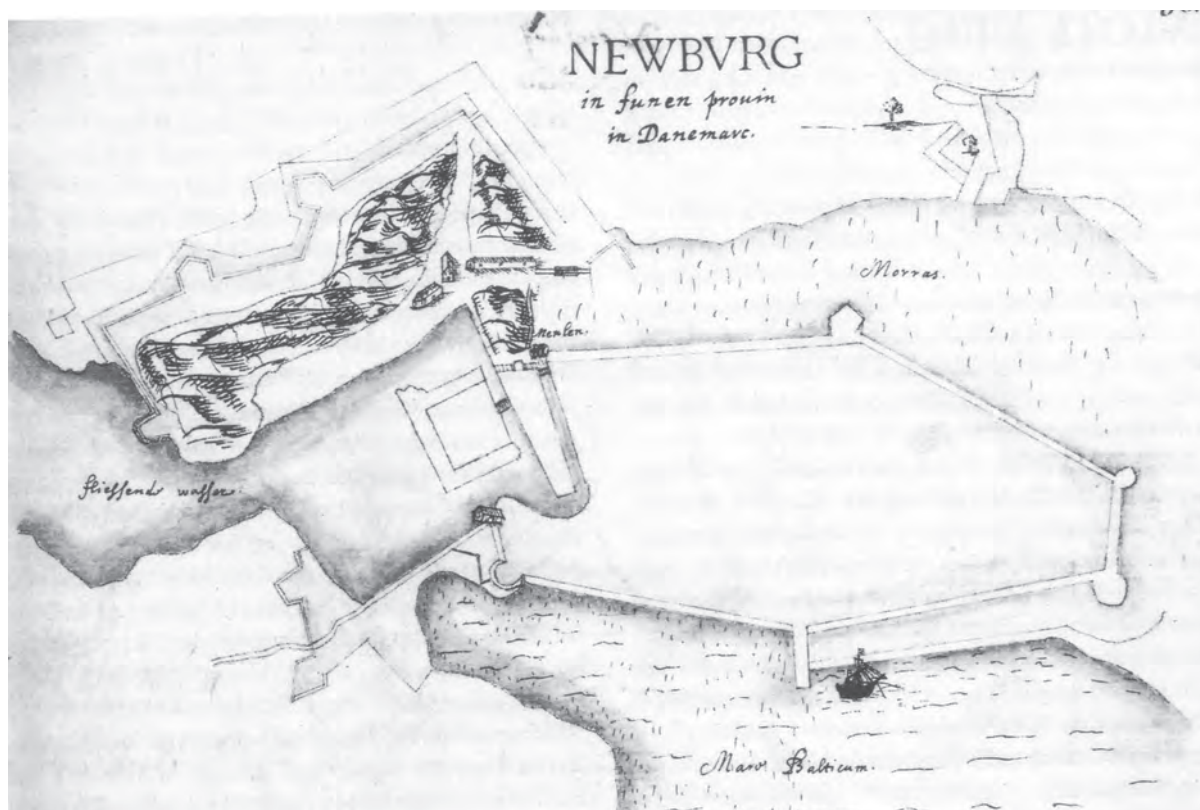


Fig. 6. Map from the 1630s on which Christian III's bastions are clearly seen (Frans de Traytorrens).

European technology, were abandoned after so many years of work.

Christian III, as already mentioned, had to send his political prisoners to Prussia as the kingdom's castles and fortresses were not strong enough to house them. Several years later, Frederick II chose to send his prisoners from the Northern Seven Years' War of 1563–70, between Denmark and Sweden, to the fortress at Nyborg (Bricka 1885, 649).

Neither Frederick II nor Christian IV (1588–1648) spent significant money on the maintenance or renewal of the fortress until 1628, when Christian IV again fortified the city, on the basis of his unfortunate involvement with the European Thirty Years' war. It is not known whether Christian IV used building materials from Christian III's old bastions for the smaller and more modern bastions built north of them. It would certainly explain the state of disrepair seen on Frans de Traytorrens map from the 1630s. Christian III's bastions are also seen on a map from the Swedish war archive from

approximately 1659, where the bastions were partially rebuilt or reused by the Swedish army (Fig. 7).

It is not known who the architect behind Christian III's bastions in Nyborg was. In northern Europe the Protestant renaissance princes had long held onto the old fortification system of ramparts and roundels contrary to Emperor Charles V, who quickly started building the new Italian bastions. Charles V also introduced the arrowhead shaped bastions in northern Europe at Antwerp in 1543. Among Christian III's many fortification architects, there was one in particular who had first-hand knowledge of the new technologically advanced bastions: Jacob Binck, painter, sculptor, engraver, medallist and fortress architect. Jacob Binck had in 1543 been sent to Antwerp by Christian III where he saw the new fortifications being built there. In 1547, he was loaned to the Duke of Prussia and served there for a year until the following year, when he was called home to accompany



the Danish princess Anna on her bridal journey to Saxony. The princess was to marry August of Saxony (Elector 1553–1586).

In Saxony, Jacob Binck saw the new fortifications of Dresden, which were begun by Elector Moritz around 1547 and later completed by Elector August (Norn 1949, 192). Besides Jacob Binck, two master builders from Antwerp, Peter de Brunde and Nicolaus Myde, were employed in the mid 1550s. They both had extensive knowledge of the new fortification technology (Norn 1949, 167). They were, however, only employed for a short time, making Jacob Binck the best candidate as the fortification architect in Nyborg.

In the 1620s Vicar Jørgen Hansen Stampe wrote that Christian III's bastions and fortifications were only partially completed. The original intention was to surround the whole castle, north and west, with ramparts and bastions, not simply, the area north of the castle. A vault was therefore built which would lead the water under the new ramparts and into the moats surrounding the castle and town (Jørgensen 1974, 135). The vault

can be seen clearly on two maps, from the 1630s and 1659. The vault's function and location only makes sense if the ramparts and bastions were originally intended to enclose the western part of the castle as well. Christian III's fortifications were thus never completed (until later), but the precondition for their completion, the vault for directing water under the new ramparts, was one of the first things built (Fig. 8).

Jørgen Hansen Stampe also writes that a magnificent vault was built, which served as the new city gate (Jørgensen 1974, 135). The city gate and vault can still be seen in Nyborg where it is now covered by the large 17th century earthen ramparts north of the castle.

On a map kept in the Swedish war archive from approximately 1659, a profile can be seen through Christian III's and Christian IV's ramparts north of the castle. Christian III's bastions were at the time around fifteen meters high and thus constituted a massive and impressive land mass. The smaller ramparts shown in front

Fig. 7. Map from the Swedish war archive approx. 1659. The map shows both Christian III's northern arrow head shaped bastions, Christian IV's smaller bastions and the Swedes' plans for new fortifications (Svenska Krigsarkivet).



Fig. 8. Nyborg Castle and town approx. 1558, as the major fortifications were partially finished. Note the two vaults north of the castle (drawing: N. Heirup 2014).

of them are Christian IV's bastions from 1628. The question is therefore whether Christian III's northern bastions were fully completed or partially functional. The profile from 1659, in any case, shows that the bastions were of gigantic dimensions and to be considered an extremely modern and visionary fortress construction, a fortification which cannot really be compared with similar building projects in Denmark at the time (Fig. 9 and 10).

THE MILL AND ITS WATER SUPPLY

In addition to the extensive work on the fortifications surrounding castle and city, several houses just east of the castle were demolished to make way for a new market and tournament field. In 1551, a mill was built next to the market together with a

newly dug channel that supplied the mill with water from the lake north of the castle (Bricka 1885, 142). Previously, a small dam had separated the lake, the Swan Pond, and the city's moat. If the dam was broken and destroyed, the water surrounding the castle would drain away. The new mill and channel were constructed such that if the mill's gates were opened or destroyed, due to a different water level, there would still be several feet of water left in the Castle Lake (Fig. 11). This indicates that it was the old dam separating the lake north of the castle and the Swan Pond that Count Christopher's people broke, in order to separate the castle from its water supply.

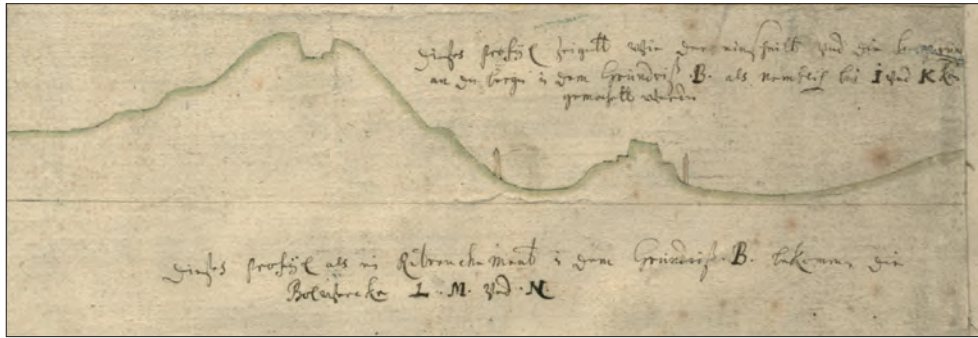


Fig. 9. Profile through the northern bastions, seen from the east in 1559. Map from the Swedish war archive (Svenska Krigsarkivet).

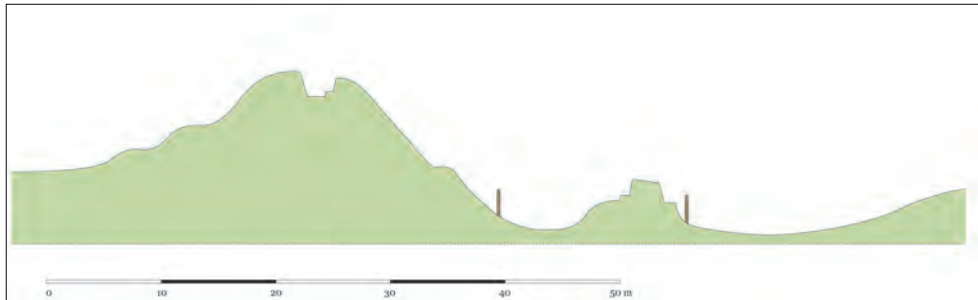


Fig. 10. Profile through the northern bastions, seen from the east (drawing: N. Høirup 2014).

THE COMPLETION OF THE FORTRESS – THE WATER SURROUNDING NYBORG IN THE SECOND HALF OF THE 1600s

On 1st June 1657, Frederick III of Denmark (1648–70) declared war on Sweden. The war started with an attack against the Swedish German province of Bremen-Verden. The attack was far from successful, and subsequently Swedish troops conquered and occupied Jutland. The winter of 1657–58 proved to be extremely hard and the Danish

waters froze. In January 1658 the Swedish troops marched across the little Belt between Jutland and Funen and occupied Funen and subsequently Zealand. On the 31st January 1658 the Swedish army seized Nyborg and kept it occupied for the next twenty-one months until two Danish allied armies, on the 14th November 1659, won a major battle against the Swedish army outside the city. On 26th May 1660, peace was signed and Denmark was left as a country marked by all the misery that a long-term occupation entails.

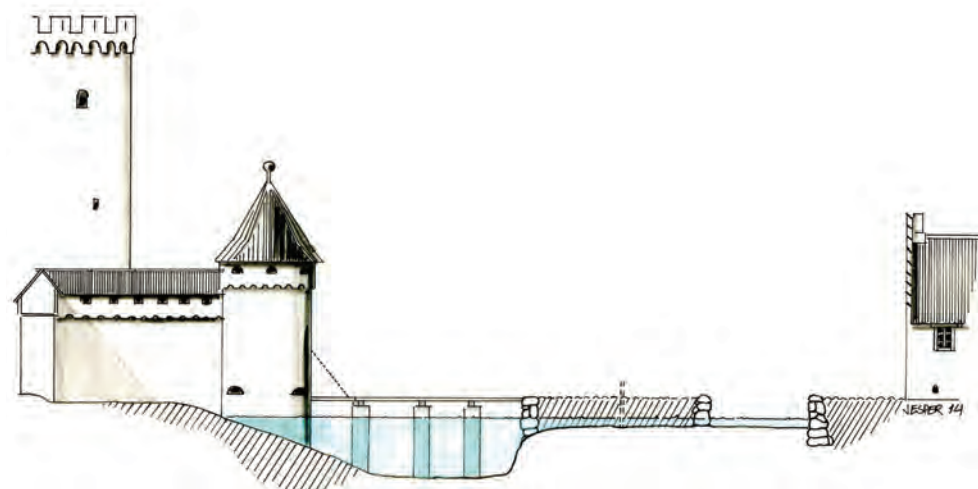


Fig. 11. The different water depth in the castle's moat and the mill's water channel (drawing: J. Olsen 2014).

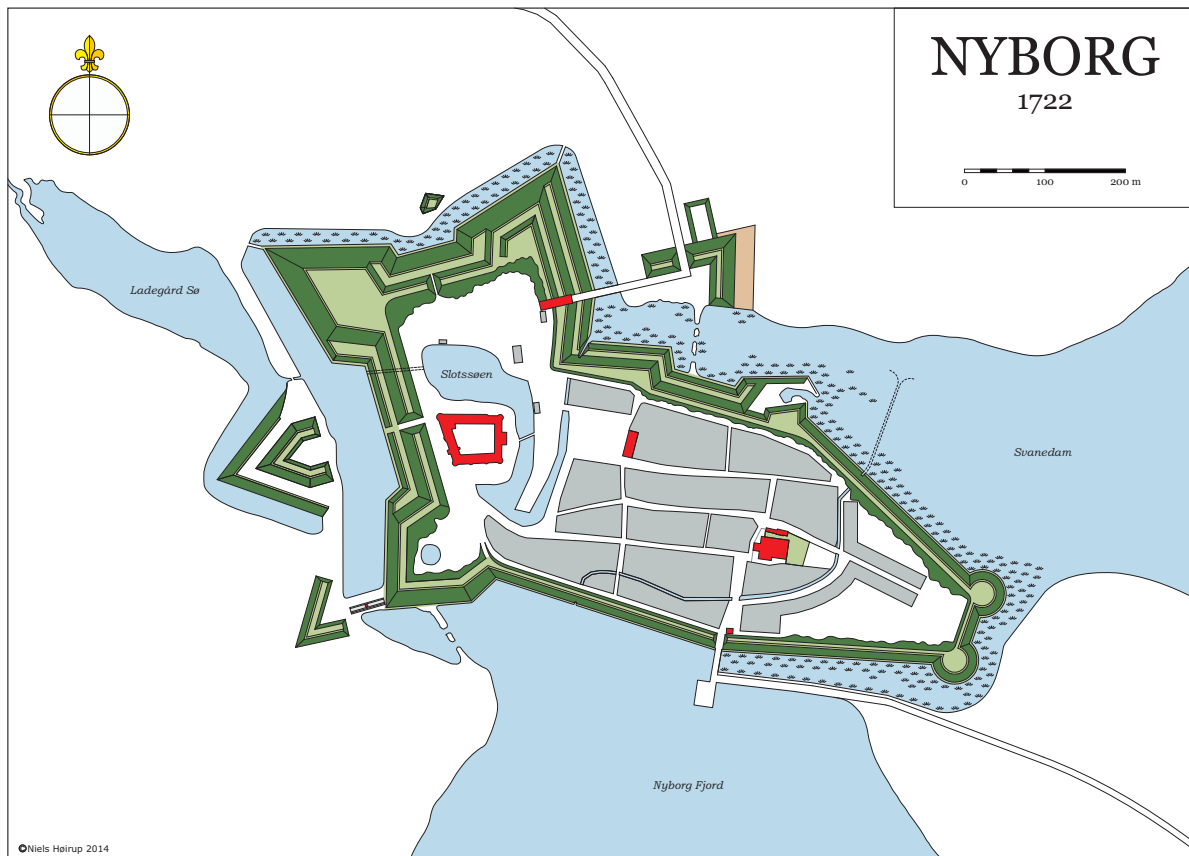


Fig. 12. The fortifications in 1722 (drawing: N. Høirup 2014).

As mentioned earlier, neither Frederick II (1559–1588) nor Christian IV (1588–1648) spent significant money on the maintenance or renewal of the fortress. During the occupation, the Swedish army therefore began to strengthen and renew the fortress at Nyborg. King Carl X Gustav even visited the city in December 1658 to gain a general view of the fortress and its opportunities. Detailed plans were drawn up, several bastions were built, but the plans were never fully realised before the Battle of Nyborg on the 14th November 1659 (Westerbeek Dahl 1995, 32).

After the war, it was decided to continue working on the great fortress at Nyborg. Military Engineer Henrik Ruse was the architect behind the project and was also the man who finally secured the water-filled moats surrounding Nyborg. Ruse had, as a young man, participated in the 'Thirty Years' War, where he had had ample opportunity to study modern fortress buildings across

Europe. In 1654, he published the book *Versterckte Vesting*, containing suggestions for improvement of the arrowhead-shaped bastion system. In Nyborg, his thoughts were realised by the construction of the still standing large arrowhead-shaped bastions, whose flanks are at an obtuse angle to the ramparts. The bastions and ramparts also had low ramparts in front of them as a first line of defence (Westerbeek Dahl 1995, 32). Additionally, the new moats made use of the old medieval water supply (Fig. 12).

It was, as previously mentioned, the dams surrounding Nyborg that, during the Count's Feud, turned out to be the fortress' major weakness. The dams keep the moat's water level 3–4 m above sea level. The dam between the Castle Lake and the city moat had been strengthened and secured around 1550 with a new mill and water channel. The Avernakke Dam to the south of the castle, which also formed the western entrance to the city, kept

the water inside the moats. The dam could be defended and fired upon from the castle, north of the crossing, and from a roundel south of it. The dam was however relatively narrow and it would not have required major engineering work to break through it. It was thus still a weakness in the overall fortress construction.

THE WHITE VIRGIN

As part of military engineer Henrik Ruse's overall plan to strengthen the fortifications around Nyborg, the Avernakke Dam was moved further south. In the area where the former dam had been located a large arrowhead-shaped bastion was built, the King's Bastion, and the moat was expanded to the south. The new dam was built in 1665 with a small tower, on top, that would prevent passage over it, and thereby secure and control access to the town and fortress (Westerbeek Dahl 1995, 49). The small tower, called the White Virgin, is preserved in its original location, where it is still possible to see the great difference in elevation of the terrain between dam and moat, and the area south of it (Fig. 13).

Shortly after the construction of the new dam, the first reports of the water's tremendous pressure on its construction appear. Already in 1672, it was in such a bad state that it was in imminent danger of collapse. Several of the stones built into its side had begun to fall out, and there had been a visible leak for a long time. In the end, the dam was repaired with moss and clay on the inside, but soon after the problem reappeared. In 1679, there was so much water pouring out through its side that it was said to be able to power a watermill. In 1684 the dam collapsed. The solution was to add earth and clay to the inside of dam to strengthen it against the water in the moat. This however meant that the tower lost its ability to protect the narrowest possible crossing over the ridge.



A stockade was therefore built to secure the area (Westerbeek Dahl 1995, 62) (Fig. 14).

Fig. 13. The White Virgin 2015 (photo: Østfyns Museer 2015).

MARINE ARCHAEOLOGICAL STUDIES

In 2012, The Museums of Eastern Funen (Østfyns Museer), in collaboration with marine archaeologists from Archaeology South Funen (Øhavsmuseet), conducted an investigation in the moats surrounding the castle. The moats were scanned in order to clarify their depth and contours. At the same time, a number of dives were made with the hope of finding the medieval dam south-west of the castle. At a previous archaeological

Fig. 14. Measurement of the White Virgin (Samuel Gedde 1753).

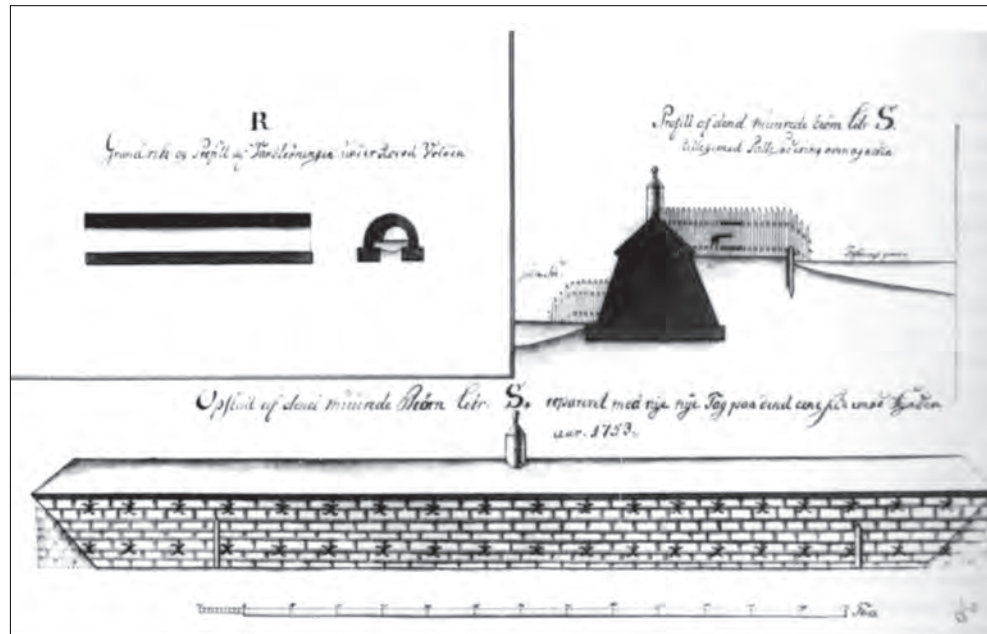
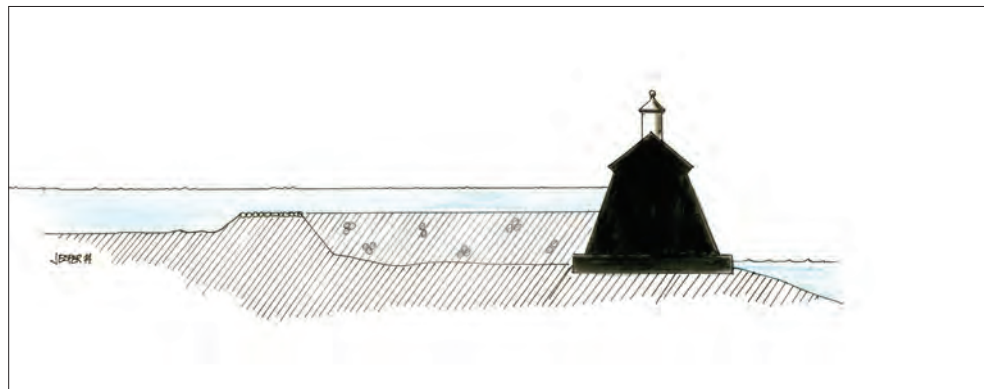


Fig. 15. Note the different water depths in the moat compared to the water in the fjord (drawing: J. Olsen 2014).



investigation the remains of the road that crossed the dam had been found. Sadly, no traces of wooden structures belonging to the dam's construction were discovered. Instead the divers found a number of large stones that are thought to be part of the old medieval dam.

The dives southwest of the castle also showed that the old moat, north of the medieval dam, was significantly deeper than the 17th century moat south of the dam. This was also confirmed by the scans, which clearly showed the difference in depth. It is thus clear that military engineer Henrik Ruse secured the water southwest of the castle with a similar solution as King Christian III, a solution that prevented the whole moat from emptying

out toward the inlet in case of the dam being damaged or destroyed. If the dam was broken, it would only mean an approximate 1.5 m lowering of the water level in the moats surrounding the castle and town (Fig. 15).

It is remarkable, that 100 years later, fortress engineer Ruse reused so many of Christian III's plans for Nyborg Castle and city. The construction of the fortifications in the 1550s were therefore of such character and visionary scale that they even held sway 100 years later. Yet 350 years later, they are still worthy of note, not just from a local or regional point of view, but also from a European point of view. As Elector August I of Sachsen described them, they are "worthy of the King's reputation."

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Claus Frederik Sørensen
 Østfyns Museer
 Nyborg Slot
 Slotsgade 34
 5800 Nyborg
 Denmark
 cfrs@ostfynsmuseer.dk

PART II: CASTLES DURING WARFARE AND SIEGES

THE LEGEND OF HOT TAR OR PITCH AS A DEFENSIVE WEAPON

Rainer Atzbach

THE LEGEND OF HOT TAR OR PITCH AS A DEFENSIVE WEAPON

Rainer Atzbach, Denmark

ABSTRACT

In popular culture and even in academic discourse surrounding castles, hot tar pitch has been depicted as a widespread defensive weapon. The identification of "machicoulis" (machicolations) as an architectural provision for pouring down liquid tar pitch goes back to the early days of castle research. In reality, this way of fighting can only be seen as a legend, i. e. a story with only a relative truth at its core. This paper will examine the origin of this historical tradition and its archaeological and architectural sources. The chemical and physical properties of tar pitch and its production and use during the Middle Ages will be discussed with special focus on the application of tar pitch as an ingredient in medieval and post-medieval thermal weapons (especially Greek Fire, the firebomb and the fire arrow). The punishment of tarring and feathering will also be considered. This practice was known in England, parts of Scandinavia and in some parts of the USA right up until the 20th century. The combination of these two completely separate lines of tradition will be considered as a possible root of this popular legend about castles at war.

INTRODUCTION AND RESEARCH HISTORY

The difference between legends and tales is that the former are seen to contain an element of truth whereas the latter are regarded as traditional, but purely fictional stories. In this sense, this paper seeks to explore a true core within the popular idea that hot tar pitch was used as a weapon during the Middle Ages. Defenders pouring hot tar pitch on attackers have been depicted in many Hollywood movies, e. g. "The Hunchback of Notre Dame" (1956) and "Braveheart" (1995). Today, this tactic is still

present in digital war games with medieval settings such as "Chivalry: Medieval Warfare" (2012). Scenarists can even refer to scholarly certification: in the online version of the popular scientific journal "Was ist was", which is aimed at schoolchildren, hot pitch is poured through bretèches (Was ist was 2014). Also, the well-reputed Lexikon des Mittelalters confirms in a dictionary entry that hot tar pitch was a dreaded weapon used in the defence of besieged towns and castles during the Late Middle Ages (Hägemann 2000), as does Koch's textbook for architect students (1993, 453). Consequently, it is not surprising to find this appraisal in specific articles

*Previous page:
Glimmingehus
Castle (photo:
Anders Lagerås,
Wikipedia 2015a).*

about medieval warfare (Nossov 2012, 79) or even the archaeology and history of tar itself (Surminski 1997, 117).

The legend of hot tar as a defence weapon is closely connected to projecting parts on curtain walls and over gates designed to protect the base of the wall against the placement of a ladder or mining. Therefore, this paper will also discuss the development of bretèches and machicoulis with floor openings, which enabled the defenders to either pour or throw things onto attackers below. Although it might be difficult to differentiate in individual cases, neither projecting privies nor deep loopholes will be treated.

Wood tar and pitch are comparatively recent subjects of archaeological interest. Research into them was initiated by highly engaged staff at the open air museum of Düppel in Berlin. In 1990, the first conference on wood tar was held in Berlin at Museum für Ur- und Frühgeschichte (Hänsel 1992). The perspective was broadened on an international level in cooperation with the Biskupin Museum (a department of the State Archaeological Museum of Warsaw), where the First International Symposium on Wood Tar and Pitch was held in 1997 (Brzeziński and Piotrowski 1997). Since then, Kurtzweil and Todtenhaupt have written several papers on the physical properties of tar and pitch and their production in prehistoric and historical periods (Todtenhaupt and Kurtzweil 1991; 2002; 2007a and 2007b). The second International Symposium on Wood Tar and Pitch took place in Biskupin in 2012; the conference papers are expected to be in press soon.

It is not possible to give an overview of the overwhelming research on sieges and warfare that focuses on castles. Here, only brief reference can be made to the most important works of the last 120 years. Apart from chapters in the classical books of Schultz (1889 1st vol. 25; 2nd vol. 362–457), Piper (1912, 356–64) and Schuchhardt (1931, 302–344), the more recent handbooks of Böhme et al. (1999, 236–255) and the

conference volume "Die Burg" (Großmann and Ottomeyer 2010) summed up the recent research on the military aspects of castles in Central Europe. Rikke Agnete Olsen's work (2011) on medieval castles in historic Danmark – including Schleswig and Scania – contributes with research on Southern Scandinavia. Nossov's book on siege warfare is one of the recent publications on this field (2012) with a broader European perspective. Last but not least, Bitterli and Zeunes paper (2015) is to be mentioned here.

TAR AND PITCH AS A RESOURCE

The oldest records of wood tar production were made by Theophrast (371–287 BC) and Plinius (24–79 AD) (Locher 1991). The distillation itself has not changed significantly since that time and in general can be divided into autothermic and allothermic methods. The first is used in more primitive tar kilns without physical separation between processed wood in the core and a casing of burning wood. The second applies both to the method of two stapled pots, which came into use in the Slavonic areas during the 7th century, and to more elaborate kilns, which have been known since the 13th century. Archaeological evidence is available for the use of tar kilns in the Central European region, especially in areas of pine forest, between the 13th and 19th centuries, when wood tar was substituted by cheaper coal tar (Kurtzweil and Todtenhaupt 2002, 192–194).

The result of the chemical process of pyrolysis is tar, a liquid or semifluid substance that consists of more than a thousand carbonaceous compounds, amongst others, aromatics, carbon hydrides, phenols and acids. The pyrolysis requires a huge amount of wood: 1000 kg of wood can be processed to about 50–100 kg of tar – not including the wood used as fuel! The tar itself can either be used directly or be distilled further in a process that expels the exhalable components, leaving

the more or less solid precipitation that is pitch (Kurzweil and Todtenhaupt 2002, 192) (Fig. 2). In effect, this chemical process transforms tar into pitch by simply boiling it down.

Sikorski suggests that hot tar is an excellent combat chemical and suitable for pouring on attackers because of its central physical properties: a high heat capacity, adhesiveness and low surface pressure, which enables hot tar to suddenly drench cloth and tissues. As a result, attackers would suffer severe burns and dangerous intoxication, especially by the phenol components of tar (Sikorski 1997, 238).

Basically, tar can be used as glue, a colouring agent, caulking – especially for ships and other waterlogged wooden parts – or as a remedy for skin diseases. Pitch has been used for centuries as a lubricant for moveable wooden parts. Archaeological evidence of the use of tar in Europe goes back deep into history, to the Palaeolithic (Voß 2003; Brzeziński and Piotrowski 1997 with examples). Hence, tar and pitch were valuable resources also during the Middle Ages; the most important application was certainly the caulking of ships and boats, but also of barrels and other wooden vessels because of the antifungal and insecticide properties of tar and pitch (Lutomski 1997). Pitch has widely been used as grease, especially for chariot axes (Todtenhaupt and Kurzweil 1991). As usual, it is quite difficult to estimate the medieval price of tar. In the case of Denmark, Queen

Christine's housekeeping accounts record nine purchases of "tyære" during a trip in 1504 and 1506 (Fig. 1, Christensen 1904). Some expenses are explicitly linked to the chariot driver or horse equipment, listed in the vicinity of expenses for accommodation and meals. Evidently, the "tar" is used as grease for the chariot axis on the queen's travels between 19 March and 22 April; consequently, the substance is to be regarded as pitch. The prices given in different coins vary between 1 shilling in Lubeck currency, 2 shillings (but here including a tack), 3 and 4 groats (but in these cases, including fat), 2 whites and 10 pence. Converting all these prices into pence (on the basis of Jensen and Skoldager 2014) gives a rough average price of about 10–12 pence or about 1 shilling a greasing. In the same year, Queen Christine paid four shillings each for two pairs of shoes given to two servants (Christensen 1904, 63, 66). In other words: the amount of pitch used for four greasings of a chariot on a trip roughly equalled the price of one average pair of shoes. Taking into consideration that this amount is used only for the periodic maintenance of generally well-greased axes, we can conclude that a barrel of pitch represented quite a valuable good.

*Fig. 1. The Danish Queen Christine's expenses for tar.
1 kross = 1 gros =
1 groat = 9 pence;
1 skilling = 1
shilling = 12 pence;
1 hvide = 1 white
= 4 pence.*

Date	Purchase	Price	Receiver	Source (Christensen 1904)
19 March 1504	Tar and a tack	2 skilling	Chariot driver	156
1 April 1504	Tar	1 skilling Lubeck	Abbot of Reinfeld	50
11 April 1504	Tar and fat	4 krosser	Abbot of Reinfeld	55
13 April 1504	Tar and fat	3 krosser	Abbot of Reinfeld	57
17 April 1504	Tar	10 penninge	(chariot) driver	61
22 April 1504	Tar	1 skilling Lubeck	Close to Neumünster	66
23 April 1504	Tar	1 skilling Lubeck	(chariot) driver	67
3 April 1506	Tar	2 hvide	Knut Trane	317
12 May 1506	Tar	4 skilling	Jens Løg	235

TAR AND PITCH AS A THERMAL WEAPON

Since antiquity, the defenders of a besieged town seized every opportunity to prevent attackers from climbing the walls. Apart from regular weapons such as arrows and spears, any heavy object was considered suitable to be cast down – and in times of need, it was only a short step from stones to vessels and to everything that could be heated or boiled in them: In 332 BC, the distressed defenders of Tyre threw fervent sand on the attacking troops of Alexander the Great. The sand went through their armoury and burned their eyes and lungs like gas. Again, this was an extraordinary weapon and a last-ditch effort to prevent the capture of the town after seven months of siege (Vogel 1890, liber IV, cap. III, 40). In 67 AD, Josephus Flavius was commander of the besieged castle of Jotapata in Palestine; he reports in his book *The Jewish War* on how boiling oil was cast over the attacking Romans as a last resort, driven by sheer desperation (Clementz 1900, libr. III, cap. 7, 339).

There are only a few medieval sources that explicitly mention tar or pitch being poured on attackers. Jan Długosz wrote his *Annales seu Cronicae incliti Regni Polonia* between 1458 and his death in 1480 (Dabrowski 1961–1985). His chronicle describes, amongst other things, the use of wood pitch twice as a thermal weapon and three times as being poured on enemies storming a fortification (Sikorski 1997): Długosz reports that when Boleslaus III Wrymouth took the castle of Bialogard during the Pommeranian War in 1102, its defenders poured boiling water and boiling tar on his troops (Dabrowski 1961–1985, book IV, 275). An older source, Gallus Anonymus' *Cronica et gesta ducum sive principum Polonorum*, which was written before 1114/15 and is therefore much closer to the historic event, only mentions that Boleslaus *violenter ac mirabiliter urbem...expugnavit* (= took the town violently and miraculously, Knoll and Schaer



Fig. 2. The “Pitch Drop Experiment” at the University of Queensland demonstrates the extremely low viscosity of pitch: It takes several years to form a single drop (photo: J. Mainstone, Wikipedia 2015c).

2008, 158). According to Długosz’s chronicle, Emperor Henry V’s troops sieged the town of Glogow without success in 1109; the defenders poured hot water and pitch on the assailants climbing the walls (Dabrowski 1961–1985, book IV, 203). Again, Gallus Anonymus’ older chronicle only reports ironically that the Poles *ignem comburentem aquamque ferventem pro balneo temperabant*, i. e. mixed burning fire and boiling water into a bath for the attackers (Knoll and Schaer 2008, book III, 238). In 1113, Boleslaus besieged the town of Naklo. He brought siege engines, but the defenders *lardum lignaque picea parant, quibus ...illam comburant* (=prepared grease and ‘pitch wood’, by means of which ... they burnt these [engines], Knoll and Schaer 2008, 284).

In every single case where the use of hot pitch is reported, a closer look into the written sources is necessary. The siege of Neuss during the wars of Burgundy in 1474/75 was originally described in Christian Wierstraad’s chronicle, an incunabulum printed in 1476. The original phrase *Want so bald van noeden groit die stormclock wart geslaegen, sach man dye frauwen ind iomferen sych zor noitwer stellen. Si droegen an calck wasser ind steyn op bolwerck ind op wellen*, i. e. in time of need when the alarm

bell was rung, one saw women and virgins at their posts. They bore quicklime and stone onto the ramparts and walls (Wierstraad 1476, line 616–618). More recently, the story has been expanded to note that women also bore “boiling pitch” onto the walls (Metzdorf 2006, 176).

In Peder Hansen Resen’s *Atlas Danicus* presenting the Isle of Møn, the use of hot pitch is described as a defense weapon on the walls of the town Stege. This part of the underlying manuscript was written by Hans Jensen Viborg (1618–1682) who has been provost in Stege since 1655 (Hertig 1990: XVII). He reports an attack of the Lubecker fleet on the Isle of Møn on the 1 June 1510. The Danish commander Anders Bille “*permagnam Aqua ferventis Coniam Picisque Calci permixta in promptu habere circa Moenia Oppidamos imperat, ut eam [...] in hostem Hostiumque Capita profunderet*” (Hertig 1990, fol. 13). The use of a mixture of boiling water, pitch and “Calcus” – probably quicklime – does not make any sense and sounds rather like a scholarly collection of thermal defense weapons. The fact, that the Lubecker commander climbing the town wall “*Aqua et Pice fervente conspersus est, ut iis suffocatus*” (Hertig 1990, fol. 14) is to be seen as a similar hendiadys of the 17th century describing a late medieval incident.

More reliable accounts are available of the use of tar as a thermal weapon. Especially the crusades provide a broad range of written sources on warfare with detailed descriptions of medieval battles and weapons used. In the second half of the 7th century, the so-called Greek Fire was invented in the Byzantine Empire. Its secret was kept for centuries while it became a decisive weapon in many naval battles between Christians and Saracens, but also in the defence of the walls of Constantinople. According to the *Itinerarium regis Ricardi*, which was written in the early 13th century and reports a naval battle in 1190, Greek Fire was a highly inflammable oily liquid extruded from iron tubes that set fire to hostile ships and could not be

extinguished by water ...*oleo incendiario, quod ignem Græcum vulgo nominant, tabulata succendunt. Ignis iste... silices et ferrum consumit: et cum aquis vinci nequeat* (Stubbs 1864, libr. I. cap. XXXIV, 81). Obviously, the liquid started to burn even without being ignited when its container was broken, as a Saracen experienced when he was pushed from his horse and thereby smashed a bottle of Greek Fire that severely and inextinguishably burned his genitals: *Quem ex nostris miles quidam ex ...equo dejecit, et casu confracta, qua ignem Græcum gestabat ampulla, eodem igne succensa sunt ejusdem Turci membra genitalia cum verendis partibus reliquis, liquore scilicet inextinguibili* (Stubbs 1864, libr. I, cap. LIV, 105).

It has been under discussion whether the central component in Greek Fire was nitre or caustic lime; the latter has been accepted as the more plausible ingredient in more recent research (Gabriel 2000; Pan 1987; Pászthory 1986; Haldon and Byrne 1970). It is unclear whether tar was part of this inflammable mixture. Between the middle of 13th century and the 14th century, an unknown author introducing himself as Marcus Graecus compiled the *Liber ignium ad comburendos hostes*, which contains 35 recipes, amongst them, a recipe for Greek Fire composed of sulphur, resin, pitch (“alkitran”= al quitran, pix liquidus) and petroleum (La Porte Du Theil 1804, 11; Partington 1960, 42–48). Pitch is moreover mentioned here as an ingredient of several burning substances, for example, as a part of two kinds of fire that were invented by Aristoteles, which allegedly could burn for a year, and as a component of an inextinguishable fire (Partington 1960, 46–48). Although a modern critical edition of the Marcus Graecus text is still missing, it is worth stressing that neither hot tar nor pitch is simply poured over enemies; obviously, it was much more efficient to use these substances as components of thermal weapons.

There are several records from Late Antiquity that testify to “pitch” or tar being part of inflammable projectiles: an early source is represented by a compilation

innocently titled *Mappae clavicula*, i. e. the small key to the art of painting. This compilation was written in the 10th century and is preserved in several manuscripts. It gathers recipes not only for pigments and colours useful for the art of painting, but also for chemical weapons. Linguistic analysis has shown that it is based on Late Antique texts (Halleux and Meyvaert 1987). *Pix condita*, which refers without doubt to pitch, is mentioned explicitly as a component of *sagitta quæ ignem emittit*, i. e. arrows that emit fire (Phillipps 1847, cap. CCLXVI, 237), of *rapidissimo compositione*, i. e. a highly inflammable mixture (Phillipps 1847, cap. CCLXIX, 237), of *compositio naphthae*, i. e. the composition of naphtha (Phillipps 1847, cap. CCLXXIII, 238) and of *compositio terebinthini*, i. e. the composition of turpentine (Phillipps 1847, cap. CCLXXIV, 238). Moreover, an individual chapter deals with *confectio picis*, i. e. the fabrication of pitch (Phillipps 1847, cap. CCLXXV, 238).

During the siege of Jerusalem in the First Crusade in 1099, Raymond de Agiles reported that the Christians *proximarent cum machinis ad muros, non solum lapides et sagittas, verumetiam ligna et stipula proiciiebantur et super hac ignis; et mallei lignei involuti pice, et cera, et sulphure et stupa et panniculis igne succensis proiciiebantur in machinas* (quotation after Partington 1960, 23, original in Raimundi de Aguliers 1866). Obviously, "pitch" was not poured directly, but timbers enwrapped in "pitch" were ignited and thrown on the attackers in order to burn them and their machines.

Aegidius Romanus describes the use of incendiary grenades during a naval battle in his mirror for princes for King Philipp le Beau of France in 1280. These grenades consisted of wrapped crocks filled with pitch, sulphur, resin and oil. They were ignited and projected onto the enemy's ships during a sea battle: *Expedi enim eis habere multa vasa plena pice, sulphure, rasina [et] oleo, quae omnia sunt com stupa convoluenda. Haec enim vasa sic repleta sunt succedenda & proicienda ad navem hostium. Ex*

qua proiectione vas frangitur & illud incendarium comburitur: et succendit navem (Aegidius Romanus 1489, lib. III, pars III, cap. XXIII; Zumkeller 2000).

The knowledge of pitch as a component of thermal weapons is also documented in late medieval sources. For example, the Büchsenmeister Johannes Bengedans wrote a treatise of war technique in about 1450 using an older master copy of a text from about 1420. He had worked previously as an armourer of the Teutonic Order and for the Danish King Christian III of Bavaria. The manuscript might be regarded either as an application to be on duty again for the Teutonic Order under its new grandmaster Ludwig von Erlichshausen or simply as an instructive compendium (Blosen and Olsen 2006a, 15; Großmann 2010). Bengedans describes how to make a *phil der nacht*, i. e. a night arrow, a burning arrow, not without a sense of humour: "You will appreciate this arrow (...), the one who receives it, will earn displeasure, because it will put him into a rather flamy mood. Whoever had this guest will wish never to have met him (...)" with the ingredients (black)powder, "Greek pitch", amber, linseed oil and petroleum. "Form a lump and put it in a small bag filled with powder. Prick the arrow through the bag and carefully wrap it with strings. Dip the arrow into a mixture of sulphur and pitch. You can use this arrow within four months" (Blosen and Olsen 2006b, cap. XXXIX, 42r–43r, 53–54). Similar recipes are state of the art in late medieval Kriegs- und Feuerwerksbücher, e. g. in the Buch von der Büchsenmeisterei written in 1462/63 (Baumeister 2010). Several late medieval burning arrows for bows and crossbows are preserved in European collections, although we lack analyses of their components (Schewe 2010).

In the post-medieval period, pitch and tar were widely known components of inflammable weapons and even of early rockets used in war, as described



Fig. 3. The Silivrikapı port (Gate of the Spring) in the Theodosian wall of Constantinople shows a bretèche upon the gate. It is doubtful, whether the bretèche belongs to the oldest period or is a product of a younger rebuilding (photo: Wikipedia 2015b).

in Siemienowicz' *Artis Magnae Artilleriae* (Siemienowicz 1650).

FORTIFICATION FEATURES: MACHICOULIS AND BRETÈCHES

The pouring of hot tar over enemies is connected to architectural fittings. The oldest description of machicolis can be traced back to Viollet le Duc (1814–79). He was the first to identify projecting battlements on the top of curtain walls and explicitly recognise the possibility of pouring down something through their floor openings (Viollet-le-Duc 1854, IV, 374 and VI, 196). In contrast to the machicolis, which cover longer parts of the castle wall, a bretèche is a punctual device constructed above endangered points, especially above ports and gates. Viollet-le-Duc called these openings *moucharabi*.

Alwin Schultz introduced this function into the German research as *Pechnase*, pitch jetty (Schultz 1889, 1st vol. 25).

There is no denying that – beyond the discussion of the substances cast through them - both architectural structures existed as part of medieval and post-medieval castles. A closer view of the preserved castles reveals a more differentiated development. Single bretèches are documented on the gates of Byzantine fortresses and in the land wall of Constantinople erected during the 5th century, where parts of the battlement project onto stone consoles, e. g. upon the Silivrikapı gate in the Theodosian wall (Fig. 3) (Asutay-Effenberger 2007, 73, Abb. 12), but we lack reliable building archaeological evidence for their dates.

Piper has given an overwhelming survey of the different types of single or grouped bretèches and machicolations in

Central Europe (Piper 1912, 356–379), but it is difficult to pinpoint the dates of his examples, as the bulk of them lack reliable dendrochronological data. Nevertheless bretèches are comparatively seldom before the end of the 13th century (Zeune 1999, 251). Machicolations are an even younger development (Bitterli and Zeune 2015). The excellent state of research on one of the most important castle buildings, the Krak des Chevaliers castle, which is situated in Syria, provides a key for the dating. The Easter main gate (gate no. 4) into the inner castle belongs to the oldest period of the upright standing castle, which was rebuilt after an earthquake in 1170 and before the mid-13th century. This port is secured by chutes of bretèches that are integrated in the upper wall of the gate house (Zimmer et al. 2010, 249–254, Abb. 5.19; Biller et al. 2013, 240). In contrast to this gate, the curtain walls did not bear any bretèches or machicolations in this period. During the second half of the 13th century (Radt 2006) or after the conquest of the castle by Sultan Baibar in 1271 (Zimmer et al. 2010, 286–291, 301), intensive rebuilding took place: large parts of the curtain walls were heightened and topped with either a parapet walk with continuous machicolations or a row of bretèches.

In Italy, France and Great Britain, the use of machicolations on curtain walls has been known since the late 13th century, even if the dates of the single examples might be doubtful (Castel Nuovo, Naples, since the 2nd half of the 13th century, Großmann 2005, 113; the keep of Este Castle, 14th century, Großmann 2005, 155; Bellinzona Castle, 1462–1490, Großmann 2005, 171; Tour Philippe le Bel, Villeneuve-les-Avignon, France, 14th century, Großmann 2005, 200; Bodiam Castle, Sussex, since 1385, Großmann 2005, 228). In Germany, there are only a few examples of machicolations; an outstanding early one is the keep of Boppard Castle, which was probably built by King Richard of Cornwall in 1265 (d) (Lorenz 2005).

On Danish castles, only few traces of bretèches and no machicolis are preserved due to the wide destruction of gates and curtain walls. The most important example is the bretèche over the entrance of Glimmingehus Castle in South Scania (Fig. 4), which was built by Jens Holgersen Ulfstand in about 1500 (Olsen 2011, 181–182, 278): projecting on two consoles from the gun emplacement on the loft, a small half-timbered construction with a separate roof and an opening in the floor protects the one and only gate. In addition, Carl Martin Smidt and Lars Meldgaard Sass Jensen have proposed the reconstruction of a broader bretèche on wooden beams over the Southern gate of Vordingborg Castle

Fig. 4. Glimmingehus Castle. Upon the gate a bretèche is situated (photo: Janne Klerk, Olsen 2011, 181).



(Vandporten), which was constructed in the 1360s. The outer bailey of Hammershus Castle on Bornholm is opened by the sally port *Havport*, which has an older, but secondarily closed opening over the entrance as part of the port construction. This younger part of Hammershus was built after the inner castle in the 13th century and before 1526/76; most likely the outer bailey was fortified during the first half (?) of the 14th century (Smidt 1939, 38–41; Wille-Jørgensen 2014, 223; Etting 2010, 126–127). The interpretation of this opening as a breteche has meanwhile been rejected, it also could be seen as a part of the gate construction (Vesth 1997, 91).

During the 14th century, machicolations were known throughout Europe, but the use of both machicolations and bretèches declined parallel to the spread of hand firearms in the 15th and 16th centuries. The advantage of defending a castle by means of gravity simply turned into a disadvantage when attackers became able to fire directly at their enemies through these wall openings (Zeune 1999; Losse 2013, 105).

TARRING AND FEATHERING

The use of hot tar against men is also associated with the penalty of tarring and feathering, which is based upon the extreme adhesion of tar. Feathers applied to human skin with tar are hard to remove and mark the affected person for a long time. The earliest documentation of this penalty of shame is Richard the Lionheart's law for his crusading fleet, passed in June 1190 close to Chinon and inserted into Roger of Howden's *Gesta Regis Ricardi*, which was written in the decades before his death in 1201/02 (Corner 1983): *Latro ...tondeatur, et pix bulliens super caput ejus effundatur et pluma pulvinaris super caput ejus excutitur ad cognoscendum eum et in prima terra, quo naves applicerint, projiciatur* (Stubbs 1867, 110), i. e. a robber shall be shaven; then boiling pitch shall be poured upon his head,

and the feathers of cushions shook over it in order to mark him. He is to be put ashore in the first harbour the fleet reaches.

In the Holy Roman Empire, Denmark, and Sweden, tarring and feathering seems to have been unknown. The fairy tale of Mother Hulda was originally told in the Northern Hesse region around the Hohe Meißner, where the mighty witch Hulda pours gold over the busy sister and "pitch" over the idle sister (Rölleke 2004, 206; Rölleke 2012, KHM 24).

In Norway's oldest town law, King Magnus VI's town law *Bjarkøyret* from 1276, a paragraph subjects a thief who has stolen more than one ørtog (1 ørtog = 10 pence, 24 ørtog = 1 mark) on a merchant vessel to tarring and feathering. His head shall be shaven and greased with tar and feathers; thereafter he is forced to run the gauntlet (Robberstad 1923, § 168).

In the post-medieval period, this penalty was primarily connected to the Anglo-Saxon legal tradition, where it was practised as vigilante justice. American colonists and even free blacks began practising tarring and feathering in the 1770s, mostly as a means of stating and defending their moral principles and their opposition to British rule and taxes (Levy 2011). After independence, in the Southern part of USA, whites used to tar and feather accused or even suspected black criminals or abolitionists. In the Northern states, anti-abolitionists and defenders of slavery tried to tar and feather their opponents until the early 19th century. A late victim was the black Thomas Paul Smith, who was tarred and feathered by fellow Afro-American citizens because of his resistance to the end of segregated schools in Boston in 1851 (Moss 2007; Irvin 2003).

Even during the 20th century tarring and feathering was practised, with a few cases being documented by courts. John Meints was tarred and feathered in Minnesota during World War I for not supporting war bond drives in 1919 (Star Tribune 1919; U.S. District

Court for the Second (Mankato) Division of the District of Minnesota, National Archives Identifier 283631). Since the 19th century, the older wood tar was replaced by coal tar, which was easier to handle because of its lower boiling point at about 80–150° C. Probably, the technical properties and disposability of coal tar contributed to the rise in tarring and feathering as a public humiliation during the last 200 years of its use.

DISCUSSION AND CONCLUSIONS

The practice of pouring hot tar – commonly called pitch in the literature – on castle

attackers is difficult to prove on the basis of written and archaeological sources. The boiling point is about 200° C. On the one hand, an enormous amount of energy is needed to keep it boiling. On the other hand, it is not possible to keep a receptacle of tar boiling over a longer period without producing more and more pitch – which simply cannot be poured down on attacking enemies because of its semifluid nature. As a consequence, any provision of hot tar should have been in place close to the bretèche or machicolation, i. e. more or less directly on the battlement parapet. It is quite impossible to imagine such an intricate installation, which would also have been dangerous for the defenders, in the path of troops moving to and from the

Fig. 5. The siege of Aubenton (1340 AD) (Jean Froissart, Chroniques de la France (1470–1475), Bibliothèque Nationale de France, Français 2643, fol. 60).





Fig. 6. *In case of need, everything was casted down from the walls, even vessels and the marital bed.* Picture after Jean Froissart, *Chroniques de la France* (1470–1475), Bibliothèque Nationale de France, Français 2643, fol. 60, *Siège d'Aubenton* (1340 AD) (drawing: K. Atzbach).

focal point of a battle at the endangered port. Nevertheless, there is some written evidence of this use, e. g. in Jan Długosz' chronicle. Yet, in each individual case, careful criticism of the source is needed as a remarkable tendency to tell this exciting story has been apparent since the late Middle Ages: the later a description of a siege has been made, the greater seems to be the probability that hot tar is mentioned. There is no denying that tar has been a valuable resource that was used not only as glue, waterproofing, grease or a remedy, but also as an ingredient in thermal weapons such as combustible arrows, grenades or possibly Greek Fire. The architectural fittings for 'vertical defence' – which range from single bretèches over ports to complex machicolations – maybe have been known since antiquity. During the second half of the 13th century, they certainly became a part of Oriental and Central European castle armouring. The widespread construction of machicolations on the top of the walls can be seen during the 14th century, declining with the rise of handguns in the 15th century. These provisions were suitable for any kind of object or liquid to be thrown or poured down in case of need: there is a wealth of written and pictorial evidence that a castle under a storm attack was defended by all means, even by casting down vessels

and marital beds (Fig. 5, 6) as an ultima ratio. It is easy to imagine that in such a desperate situation even a bowl of hot tar – or pitch – may have been thrown down on the attackers if it happened to have been at hand though we lack reliable archaeological evidence for this use apart from one single context: At Windegg Castle in Schwertberg, Austria, a clump of pitch was excavated by a group of volunteers on the inner side of the curtain wall; sadly an account of this find has not yet been published.

Perhaps the tradition of tarring and feathering as a penalty of shame, which was practised until the 20th century (or longer?), might have fostered the tale of hot tar as a defence weapon last but not least in popular culture. From an archaeological point of view, it must be regarded as a classical legend, certainly not be taken literally but still containing some element of truth.

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Rainer Atzbach
 Medieval and Renaissance Archaeology
 School of Culture and Society
 Aarhus University
 Moesgård Allé 20
 8270 Højbjerg
 Denmark
rainer.atzbach@cas.au.dk

The background of the entire page is a historical painting. The top portion shows a close-up of a castle's dome and spire against a cloudy sky. The bottom portion shows a wider view of the Stockholm Royal Castle, a large stone building with multiple windows and a central clock tower. In the foreground, there is a stone wall and a cobblestone path. A person in dark clothing is riding a white horse, and two other figures are walking nearby. The painting has a muted, historical color palette.

PART II: CASTLES DURING WARFARE AND SIEGES

THE FATAL SIEGE OF THE ROYAL CASTLE IN STOCKHOLM
(1501–1502)
– THE BEGINNING OF THE END OF THE NORDIC UNION

Vivian Etting

THE FATAL SIEGE OF THE ROYAL CASTLE IN STOCKHOLM (1501–1502) – THE BEGINNING OF THE END OF THE NORDIC UNION

Vivian Etting, Denmark

ABSTRACT

One of the most violent sieges in Nordic history is the siege of the royal castle in Stockholm 1501–02, which lasted nearly 8 months. It was the tragic climax of long lasting struggles in Sweden between the rebellious section of the Swedish nobility and the party loyal to King John (Hans). He was king of the Nordic Union: Denmark, Norway and Sweden, and had just been crowned in Stockholm in 1497. However in Sweden the dissatisfaction with the government led to violent uproars and open war was now a fact. The siege started in the middle of October 1501. Queen Christine and about 1000 loyal men were confined in the royal castle. The commander of the Swedish besiegers was a highly gifted clergyman, Hemming Gadh! The heavy fire and storm attacks were combined with blockade of supplies and provisions to the castle. Soon the lack of food became critical, scurvy broke out and the situation was desperate. Dead bodies were piled up in the cellars, and in the beginning of May the negotiations about the surrender of the castle began. On the 9th of May the queen and about 70 survivors could leave the castle. Three days later the royal fleet reached Stockholm!

In 1397 Denmark, Norway and Sweden concluded the Nordic Union and celebrated the event with the crowning of a new king of all three kingdoms. However no proper constitution was ever made and problems soon emerged. Especially in Sweden the dissatisfaction about the Danish dominance began to spread, and open rebellion broke out. For several periods Sweden chose its own king, but the union was still supported by a strong section of the Swedish nobility. At the end of the 15th century King John (Hans) ruled Denmark and Norway and tried to suppress the rebellion in Sweden. Here the provisional government was headed by

the nobleman Sten Sture (the Elder), but his regency was unpopular among the majority of the Swedish nobility, and the council of the realm declared him to be deposed on March the 8th 1497. Open war broke out, and the army of Sten Sture was defeated by King John's mercenaries in the battle of Rotebro in September the 28th. Negotiations subsequently ended up in a treaty in Stockholm, and King John was finally crowned as king of Sweden. However, the simmering unrest continued, and open revolt broke out again.

This article will focus on the following events, which led to the siege of Stockholm Castle in 1501–1502. Excellent accounts and

*Previous page:
Stockholm Castle
(Painting: Govert
Camphuysen
1661. Uppsala
Konstmuseum).*



Fig. 1. The oldest image of Stockholm called 'Vädersolstavlan' was painted around 1535. Today, only this copy from the 1630s is preserved in the church of St. Nikolai (Storkyrkan). The royal castle with the big tower can be seen just behind the church (Dahlbäck 1987).

letters allow us to follow the siege closely from both sides, and they provide a vivid picture of the dramatic situation (Fig. 1).

At first, King John (r. 1481–1513) and Queen Christine, who both played a central role in the events, must be introduced. The king succeeded his father (Christian I) in 1481 and inherited all his political troubles, not only with the rebellious Swedes, but in the Duchy of Slesvig as well. For many years he had a mistress, a noblewoman by the name Edel Jernskæg, who at the same time served as a lady-in-waiting at court. She followed the royal couple to Stockholm in 1501.

Queen Christine was daughter of the Duke of Saxony and only 17 years old at her wedding with King John in 1478. She



Fig. 2. Pictures of King John, Queen Christine and their son Prince Francis decorate their large tombstone in Odense. They seem to be rather accurate portraits of the royal family (photo: The National Museum of Denmark).

Fig. 3. The city of Stockholm on the island called Stadsholmen, seen from the north and the south. The upper view gives a good impression of the royal castle with the bailey in front. Engravings from 'Civitates Orbis Terrarum' by Braun and Hogenberg, 1588.



gave birth to 6 children, but her relations to her husband aggravated over the years. Throughout her whole life she was a devoted supporter of the Franciscans, and donated generously to artists and musicians. Nothing seemed to indicate, that the frail queen was to be the main figure in the coming siege of the castle of Stockholm. At that time she was 40 years old and had been married to King John for 23 years (Fig. 2).

STOCKHOLM AND THE ROYAL CASTLE

Stockholm has a very strategic location on an island, called Stadsholmen, on the eastern coast of Sweden, where Lake Malaren debouch into the Baltic Sea. The royal castle was situated on the northern side of the island, close to the large church of St. Nikolai (Storkyrkan) (Fig. 3). It was probably founded around 1200 and dominated by a big round tower called 'Trekroner' (The three Crowns), symbolizing Sweden's coat of arms (Söderlund 2010, 752). The tower was about 25 m high, built entirely in stone whereas the

rest of the castle was largely built in brick. The main castle to the south was constructed on a square ground-plan measuring around 50 x 45 m with a palatium as the eastern wing. The large bailey was located to the north and an inventory from 1505 mentions a storehouse, a guesthouse, houses for handling milk, fish, malt and hops, two kitchen buildings etc. The curtain walls protecting the castle were up to 5.5 m thick and the outer wall to the north was 11 m high. The main entrance to the castle was the gate in the south-western corner of the bailey. A dry moat and an outer wall separated the castle from the city to the south and west. Thus, in general the castle constituted a strong fortification, which was clearly demonstrated at the siege in 1501.

The medieval castle was destroyed during a fire in 1697, but a new castle was built on the same location and some of the medieval walls were reused. Thus, large parts of the old northern wing are still preserved above ground (Fig. 4).

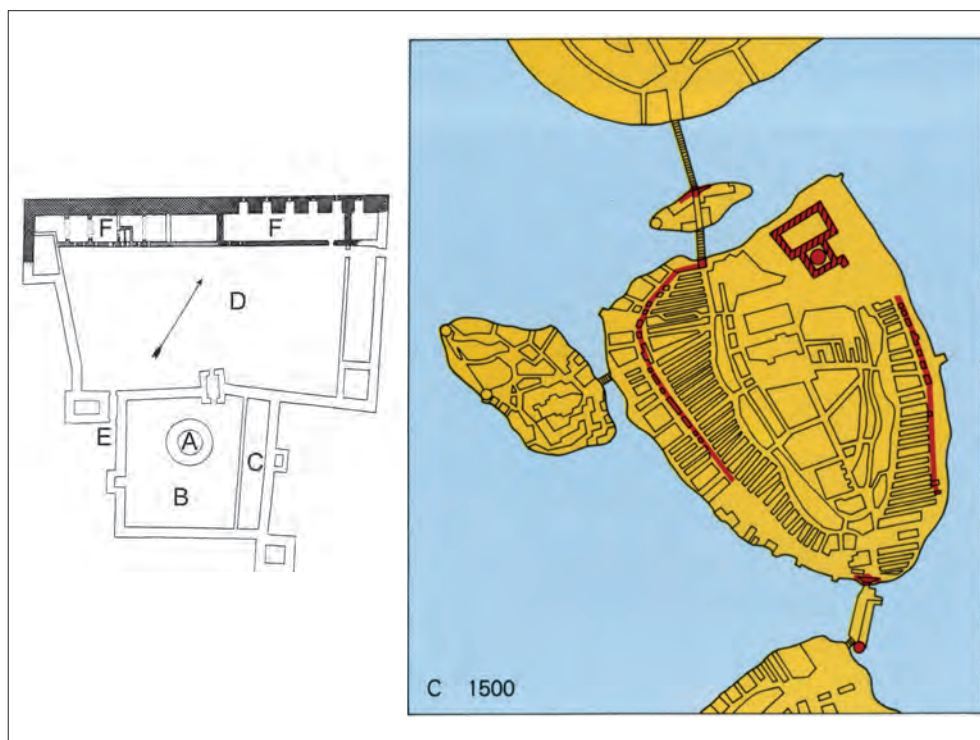


Fig. 4. Reconstructed plan of Stockholm and the royal castle around 1500.

A: The tower Tre Kronor 'The tree crowns'
 B: Courtyard of the main castle
 C: Palatium
 D: Bailey
 E: Main Entrance to the castle
 F: Houses built up against the outer curtainwall
 (Dahlbäck 1987).

THE SIEGE

Peace barely lasted four years from the coronation of King John in Stockholm the 26th of November 1497 until the next rebellion against the Danes broke out in August 1501. Once again the leader was Sten Sture, and the king hurried to Denmark to raise an army. He left the queen at the royal castle in Stockholm, and in the beginning of October the Swedish troops encircled the city. A violent fire broke out during the turmoil, and almost a quarter of the city burned down. Members of the Swedish council claimed that Danish soldiers from the castle were responsible for having set the fire, whereas others blamed supporters of the rebellion (BSH 1875, 190). The case was never resolved.

The city surrendered already the 17th of October, whereupon the siege of the castle started.

Various sources estimate that the queen had around 1000 men at the castle. It is mentioned by the queen herself in a letter to King James of Scotland (Aarsberetninger fra

det kongelige Geheimearchiv I, p. 53, nr. 4), by King John in a letter to the council of Danzig (BSH 1875, 218) and by chroniclers as Olai Petri (Petri 1860, 299) and Arild Huitfeldt (Huitfeldt 1599, 177, 184). This number far exceeded the normal staff, and no



Fig. 5. Canon of wrought iron from around 1500, found in a wreck close to the island of Anholt. This type of firearms must have been used during the siege of Stockholm castle. They were loaded from detachable chambers filled with powder charge. New chambers were ready in order to secure a rapid firing rate (photo: The National Museum of Denmark).

doubt it included many Swedish supporters of the Union. We know for sure that she was accompanied by the Swedish archbishop Jacob Ulfsson, several knights from noble families, her personal doctor Karl Eger, and a large number of Danish and German mercenaries. In November the 24th the queen assured the commander of the castle, Johan van Grapendorf and the common soldiers, that they would receive full pay, when the castle was relieved. If the king was unable to relieve them and she was forced to surrender the castle, she promised to render pay, clothes and linen as soon as she returned to Denmark (Reptorium diplomaticum 1934, nr. 9460).

The commander of the Swedish troops was a clergyman called Hemming Gadh. He was a highly gifted man, who recently had been appointed bishop in Linköping after having spent about 20 years in Rome as chamberlain for the Borgia Pope Alexander VI. This

surprising choice of commander might be due to the fact that the Swedish leaders Sten Sture and Svante Nilsson were on bad terms, but never the less Hemming Gadh turned up as an efficient and ruthless commander.

The main attacks on the castle were directed from the city, and barricades were raised up to the dry moat south and west of the castle. On November the 30th the besieged tried to break out, but the attack failed. The use of canons was now decisive in warfare, and the castle was supplied with several (Fig. 5). Besides this the crew was equipped with handguns, which were matchlock arquebuses (in Danish *hagebasser*). On the 6th of December they fired the great canon called 'Ingeborg' from the castle for the first time. Hemming Gadh reported to Svante Nilsson, that a cannonball broke a palisade at the gate of St. Nikolai and killed two men. In the same letter he estimated the size of the Swedish troops to around



Fig. 6. Letter from Hemming Gadh to Svante Nilsson, dated the 30th of January 1502. He describes how three noblemen had shouted from the curtain wall, that the queen wanted permission to visit the city, but he had refused her request (photo: Svenska Riksarkivet, Sturearkivet 1499, nr. 0103, SDHK, Nr. 34500).

4.000 men and adds that they were waiting for 1.400 shooters from Dalarna in addition. Hemming Gadh mentions, that they had difficulties with some fishermen from the city, who were accused of “fishing for the need of the castle” (BSH 1875, 197).

At the end of January the noblemen Ture Jönsson, Kristiern Bengtsson and Anders Pedersson shouted from the curtain wall that the queen wanted permission to visit the city, but this was refused by Hemming Gadh as well as her request for a delivery of wine. He remarked to Svante Nilsson: “*I think that she is in great need of wine and other supplies, but since she refused our previous offer, she will not get it unless she surrenders the castle*” (Fig. 6) (BSH 1875, 203). The heavy fire and storm attacks were carefully recorded, and the Swedish troops used firearms as well. Sten Sture mentions in a letter to Svante Nilsson, that they had fired a mortar (called a *mörser*) the previous day, but it was damaged in the first shot. They repaired it the next day “*so we expect to shoot with it tomorrow again*” (BSH 1875, 196). Mortars were well known in European warfare at the end of the Middle Ages, and they could be armed with fire-projectiles as well. However the most efficient ‘weapon’ during the siege was the blockade of supplies and provisions to the castle. Soon the lack of food became critical, scurvy broke out and the situation was desperate.

In the meanwhile King John tried to organize a counterattack, but it certainly took him a long time to gather a fleet for the rescue of the queen with the excuse that the icy waters hindered the voyage. Instead he arranged the marriage of Princess Elisabeth in Brandenburg, and enjoyed himself with his mistress Edel Jernskæg. The affair offended many people, and during the siege in Stockholm the Swedish council wrote a letter to the Duke of Mecklenburg on November the 11th which included following remark: “*When king John departed the country, he left his noble highborn queen to stay here in great distress, and he brought with him a loose woman, who he previously had brought into*

the country as a great insult to his wife, so that we all pitied that this noble queen should suffer such disdain and shame” (BSH 1875, 191). Publicly the king underlined his intentions to rescue the queen, and on February the 2nd 1502 he wrote in a letter to Henrik Krummedige: “*Every day We endeavor with the help of God to go to Stockholm as soon as the waters are free in order to help and rescue our dear wife and the people*” (Danske Magazin 1845, 44, nr. 47). Finally the 13th of March the king pointed out commanders for a fleet, but the departure was delayed for several weeks.

In order to prevent the expected fleet of king John from reaching the castle from the sea, the Swedes decided to place a boom across the fairway between the city and the small island called Kärppingeholmen. The plan was put into action during the night on the 14th of April, but the attempts to bar the entrance failed because of the heavy stream. At the end of the month Sten Sture wrote to Svante Nilsson that he had received a letter, which stated that King John was on his way to Stockholm with a fleet of 30 ships (BSH 1875, 215). Thus, time was short!

In the meanwhile, the situation on the castle was getting worse and worse. Dead bodies had to be piled up in the cellars, and the besieged started to eat the horses. On April the 29th the Swedish forces tried to storm the castle and succeeded to get into the bailey. The attack was described by the commander of Stockholm, Knut Eskilsson, a few days later in a letter to Svante Nilsson with the following words. “*We stormed the castle of Stockholm on Friday, and by the help of God we climbed up the bulwark and burned up all bulwark, ships and boats, so there was nothing left. And we forced our way through the western curtain wall and burned down the gate and came into the bailey.*” Here the defenders received them with guns, piles and stones. About 100 men were killed during the attack (Fig. 7) (BSH 1875, 216).

By now the conditions on the castle were so terrible, that negotiations about the surrender were opened. The queen sent

Fig. 7. The tabernacle in the cathedral of Linköping is made by the well-known sculptor Adam van Diiren around 1500. It is built in the shape of a tower, where the defenders shoot with crossbows and guns behind the battlements (photo: V. Etting).



a delegation of five men: Ture Jönsson, Folke Gregersson, Oluf Jepsen, Johan van Grapendorf, and the queens personal physician Karl Eger to a meeting in the church of St. Nikolai with the leaders of the Swedish army. An agreement was reached on May the 5th and the official document is dated the following day (Aarsberetninger fra det kongelige Geheimearchiv 1870, 305–308, nr. 25). The conditions were hard: the queen, her own servants and the general staff should leave the castle the following Monday at eight o'clock. They would be taken to the Dominican monastery in the city until Sten Sture and Svante Nielsson decided the terms for her return to Denmark. All knights, esquires and soldiers were prisoners of war, but it was promised that they would not be chained in prison. They had to take oath to stay in the city until ransom had been paid or they were exchanged with other prisoners of war. If some of the people, who died in the castle during the siege, had donated various items such as gold, silver or money to churches or monasteries, these donations should be respected. All weapons and armoury should remain on the castle such as armour, guns, arrows, bullets, saltpeter, sulphur, swords, spears and halberds. Besides

these terms the Swedish archbishop, who supported the queen, had to renounce his right to appeal to the Pope.

THE FINAL SURRENDER MAY 9TH 1502

On May the 9th the queen and her followers left the castle. According to the chronicler Olai Petri only 70 people had survived of a total of about 1000 – all the others had died during the bombardment or by famine and scurvy: *“Barely ten men were in good health when they left the castle and only about 70 men were alive”* (Petri 1860, 299). A few years later the queen referred the terrible situation in a letter to King James of Scotland and described the disease, which caused the death of over 900 people: *“It is a kind of disease, which in our language is called skørbug (scurvy), which is caused by lack of food. The limbs become bloated, the gums swell, the feet puff up, the face is off-coloured and the muscles cramp”* (Aarsberetninger fra det kongelige Geheimearchiv 1855, 53, nr. 4).

Three days after the surrender, the Danish fleet with no less than 30 ships reached Stockholm! However when the king saw the Swedish banner on the castle, he ordered the fleet to turn around and left the queen back in Stockholm. A few days later on the 14th of May he wrote a letter to the town council of Danzig and asked them to stop all export to Sweden. The king claimed that 900 people had died on the castle – not by lack of food, but by poisoning – since there were no Swedes among the deceased! (BSH 1875, 218). Evidently this allegation was pure fabrication. After the surrender the queen had to spend the following 18 months in captivity until she was accompanied to the border by Sten Sture and Hemming Gadh, and was received by her son Prince Christian with a retinue of noblemen. The other prisoners were released already in the middle of June and they were allowed to travel home. On their behalf the queen had to promise, that they would never again fight



against Sweden (Fig. 8) (Sveriges Traktater II, 493).

A contemporary chronicler, a Carmelite monk by the name Poul Helgesen (c. 1485–1534), tells about the siege. He is very upset by the humiliating treatment of the queen, and calls the Swedes barbarian people, who are unfaithful by nature, and therefore should not be trusted by anyone (Skibykrøniken 1890, 38–39).

Queen Christine never forgave the king. After her return she moved to the royal castle of Næsbyhoved close to Odense on Funen and she never revived her married life with King John. She died in 1521 (Fig. 9). The last decades of the Nordic Union were marked by a brutality and ruthlessness,

which had not been known before. Old rules for knightly honour, behavior and Christian moral were replaced by a new hatred and bitterness. This trend was certainly retained when Prince Christian succeeded his father in 1513. He was crowned in Stockholm the 4th of November 1520, but the following days he took a terrible revenge on the deceitful Swedish nobility: around 80 persons were beheaded and executed, among these two bishops. A month later Hemming Gadh was beheaded outside the castle of Raseborg in Finland. In fact he had supported King Christian during the latest struggles, but the king distrusted the deceitful bishop. Perhaps it was the last revenge for the humiliating treatment of his mother in the terrible siege of Stockholm!

Fig. 8. After the surrender of Stockholm castle the war with Sweden went on with new encounters which included the siege of Ålmsborg castle in July 1502. This drawing of the siege was made by the German mercenary Paul Dolnstein the 18th of July 1502. The large amount of canons is noteworthy (photo: Antikvarisk-topografiska Arkivet, Stockholm).



Fig. 9. Sculpture of Queen Christine from the magnificent altarpiece she donated to the Franciscan Church in Odense. The altarpiece, which was designed by the famous artist Claus Berg, was later removed to its present location in the Cathedral of Odense (photo: The National Museum of Denmark).

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Vivian Etting
The National Museum of Denmark
Frederiksholms Kanal 12
1220 Copenhagen K
Denmark
Vivian.Etting@natmus.dk

PART II: CASTLES DURING WARFARE AND SIEGES

THREE CASTLES AT HALD: AN UNFINISHED EARTHWORK AND A
FORGOTTEN SIEGE

– NEW ARCHAEOLOGICAL INVESTIGATIONS INTO THE
MEDIEVAL FORTIFICATIONS AT HALD

Jesper Hjermin



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ABSTRACT

8 km south of Viborg lies Lake Hald Sø. At the lake's north end we find three medieval fortifications which traditionally has been interpreted as castles that succeed one another (Hald I–III). New studies have been based on a more holistic approach with particular emphasis on the castles locations in the landscape and their chronological classification in Denmark's medieval history. The new interpretation places Hald II in the 13th century was a never completed castle. Hald I is a siege work from 14th century, which has been monitoring Hald III. Hald III is in three stages used from the 14th century to 1520s, when parts of the now standing buildings are erected. The article also brings a number of theoretical – methodological reflection on not completed castles and in a final digression thoughts on the medieval castle seen from the attackers' point of view and the opportunity to rediscover their siege works, camps etc. in the open landscape.

INTRODUCTION

Lake Hald Sø is situated about 8 km south of Viborg. Grouped around the northern part of the lake you find the present day Hald Manor and three medieval earthworks. The three medieval sites are generally interpreted as being successive replacements (Fig. 1).

Hald I or Brattingsborg as regarded being the oldest, which was superseded by Niels Bugge's Hald or Hald II, whilst Bishop Jørgen Friis oversaw the construction of the final Hald III. Both Hald II and III are named after known historical individuals and Hald I is generally also indirectly linked with the Eberstein family name (Olsen 2011, 136).

Overall, the gallery of characters that laid claim to Hald over the centuries amounts to an impressive list, containing some prominent families, whose influence and actions again and again affected the course of Danish history (Bøgh 2014, Gulddal 1954).

It seems quite incongruous therefore, when the Brattingsborg or Hald I is ascribed to the powerful Eberstein family and to Marshal Ludvig Albertsen Eberstein in particular († 1328), while it appears today as a rather small uneven earthwork mound situated on the middle of a long slope down to the Lake Hald Sø. One would have expected a more impressive and larger edifice similar to Hald II, which is nearly twelve times larger or

*Previous page:
Hald III – Hald
Castle in Lake Hald
Sø and Hald I –
Brattingsborg or
Valdemars Sconce
on the field
(photo: L.-H.
Olsen 2014).*

The re-examination of older material together with the integration of newer findings, has opened up for a new working hypothesis/interpretation of both the chronology and function of the sites which have also been reassigned their ‘old place-names’ as noted on a 1827 map by Julius Eibe (Fig. 2); whilst their mutual numbering has been retained.

Hald II, now also called “Old Hald”, is more than likely the oldest one and appears as a large earthwork mound, which was probably never fully completed. There are only meagre traces of building structures or activity, and a possible 13th century date does not seem unreasonable. The builders of such a site could be the Eberstein family, with an aristocratic lineage among the absolute top in Denmark (Bøgh 2014, 190) and with an interest in having a representative stronghold close to Viborg.

Hald III, now also called Hald Castle, during the oldest phase – Hald IIIa: the castle was inhabited by knight Niels Bugge. He chose to build his castle on a peninsula extending out into Lake Haldsø. Niels Bugge is a constant factor in the extensive conflicts during the reign of King Valdemar IV (in Danish: Valdemar Atterdag, 1340–1375) and he was finally murdered in Middelfart in 1358, more than likely on the behest of the King. The historian Anders Bøgh characterises him; “...as one of the 14th centuries absolute richest, most famous and significant men” (Bøgh 2014, 187).

There is an intermediate phase – Hald IIIb. In 1393, the castle is given to the Bishop of Viborg by Queen Margrethe I (1387–1412) and 30 years later the castle island was stabilized with driven oak piles under Bishop Lave Glob of Viborg in 1423. This presumably took place in connection with the construction or extension of some form of episcopal residence, which was not necessarily defended.

Hald Castle – Hald IIIc – was erected by the last catholic Bishop of Viborg, Jørgen Friis, in 1528. He was one of the two central

actors in the development of the Danish Reformation in 1520s Viborg. The course of events in Viborg ultimately led to the introduction of the Reformation with the reformer Hans Tausen at its head, already by 1529 the King gave permission for the destruction of the town’s twelve parish churches and the redevelopment of the two mendicant friaries’ as reformed parish churches for the town.

Brattingsborg – Hald I – is a siege fieldwork built during the turbulent kingless period of the 14th century, possibly in 1372 to monitor and control Hald Castle – Hald IIIa.

This present article will give an in-depth overview of the new findings and correlate them with older theories to support a new chronological framework for the Hald fortifications.

MEDIEVAL CASTLES IN THE CENTRAL JUTLAND REGION – A PILOT PROJECT

Over the course of 2014–2015, the ten archaeological museums of the Central Jutland Region co-operated on a pilot project centred on promoting research interest and awareness of the region’s castles and defensive earthworks.

A research program was outlined with some guiding principles, which were used to test four localities throughout the region, with Hald near Viborg among the appointed test-sites.

The programme deals with

1. Archival research of the four test-sites including:
 - A systematic inspection of the museums archives, national archives and local-history archives with the goal of creating a complete bibliography of the extant sources and available literature relating to the sites.
 - A systematic sifting of museum collections for all finds, deriving from the sites in question or privately submitted objects.

- A register of castle indicative place names.
 - A collection and register of local traditions and tales.
 - Studies of old maps, high-resolution aerial photography and field surveys, with the goal of mapping the earthworks full extent and surroundings.
2. On the individual test-sites, field reconnaissance, metal detector searches, non-destructive testing with georadar and magnetometer. The collection of new aerial photo and satellite data for all test-sites.
 3. Based on the results of all of the aforementioned non-destructive test methods, a limited number of trial excavations are to be carried with the aim of extracting new data to facilitate a more precise framework for the makeup and dating of the sites, especially wood for dendrochronological testing

The rapport for the Hald fortifications implements the majority of the points listed in the framework and utilizes the potential of this research programme.

THE HALD FORTIFICATIONS

The three pronounced medieval earthworks have attracted a lot of scholarly attention over time. By the early 16th–17th century, the sites were already attributed with historical designations, which still hold strong today – with their roots in folk culture, legend and history. Attributes, which may not necessarily have any valid connection with the factual history of the sites.

Some archaeological investigations were carried out for ca. 100 years ago at two of the sites (Hald II and Hald III). The main instigator behind these campaigns was district bailiff and politician Christopher Krabbe (1833–1913) who owned Hald Manor from 1881–1892. The manor remained in the hands of the Krabbe family between 1851–1919 (Andersen 1977; Vellev 1992, 232).

Over the last few years, the Hald sites have functioned as a test-site for non-destructive archaeological methods. A local interest society ‘De 5 Halder’ carried out some geophysical surveys together with Viborg Museum in 2010 and in 2014 as part of the regional castle project. The results of the 2010 season are published (Larsen and Hjerminde 2010). The regional castle project has likewise carried out some archaeological investigations in 2014–2015 on both Hald I and Hald II together with geophysical surveys in 2014.

HALD I – BRATTINGSBORG

The Hald I earthwork fortress (Fig. 3), which has been attributed many names over time – Brattingsborg, The King’s sconce and Valdemar’s sconce, is roughly situated on the

Fig. 3. Contour map of Brattingsborg – Hald I. Survey by Erling Buhl and Niels Chr. Clemmensen 1974 (The National Museum of Denmark).

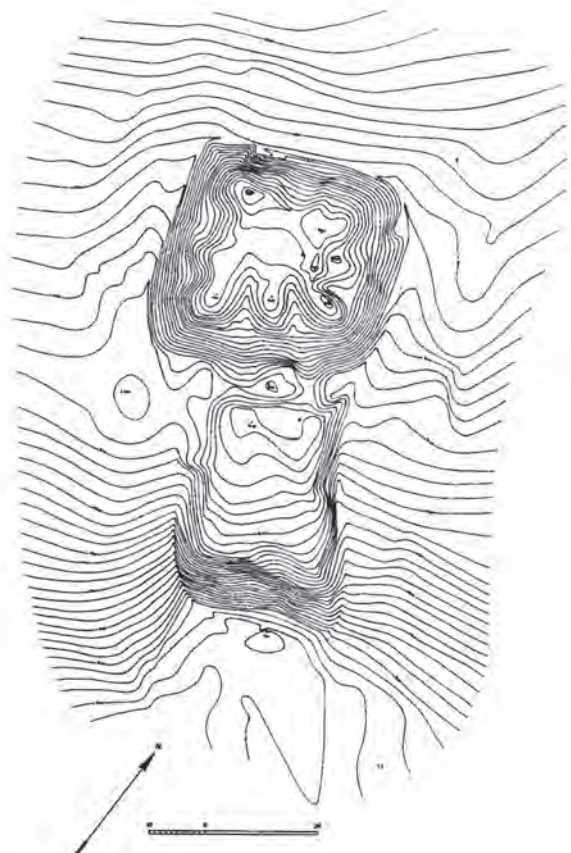


Fig. 4. A section from the trial excavation at Brattingsborg – Hald I. Note the fragment of a medieval roof tile deposited in the fill (photo Viborg Museum 2014).



middle of a southwest facing slope down to the north western shores of Lake Hald. It consists today of two four-sided earthen mounds separated and originally encompassed by an up to 15 m wide (at the top) dry moat. The depth of the moat is not known.

The northeastern mound measures at its base ca. 40 x 40 m, with an approximately plain level top surface area of ca. 25 x 25 m. The outer edge of the mound is somewhat uneven and even curved shaped. If we look away from the curved outside edges and focus on the central rectangular space, then you are left with a relatively plain area of ca. 15 x 12 m or 180 m².

The top of the earthen mound has been raised ca. 4 m above the surrounding terrain and has very steep sides. Looking at the top of the mound itself, it seems as if the course of the curved sides respects 2 x 3 m large depressions – three along the east side and three along the western side. However, it turns out that the opposite seems to be the case – as three of these depressions are in fact piles of earth.

On the south side facing the southern mound, there are two ca. 5 m wide excavated areas. Colonel N. Lunn classifies them as

towing tracks in a letter to Viborg Museum the 12th of April 1966: “In the middle area, there are traces of levelling, which indicates tracks after some towing activity or a ramp”. There are possible traces of these tracks down in the dry moat between the two embankments (VSM B050).

The south-eastern mound is laid out asymmetrically and approximately aligns with the north-eastern side of the larger mound. It is rectangular in shape measuring ca. 37 m in length and ca. 27 m in width at its foot. The top surface, which is ca. 3 m lower than the northern one, measures ca. 23 x 18 m –roughly 400 m² and is thereby nearly twice the size of the larger mound. The surface is not plain and level, but falls slightly to the south.

In 2014, the geophysical survey revealed a series of anomalies on the northern mound, which appear along the edge of the mound and seem to follow the placement of three piles of earth among other things. Magnetometer results from the southern bank returned readings indicating smithy activity and the geo-electric survey also indicated traces of possible foundations of one or more structures along the western



side (Larsen and Hjermind 2010, 15).

In 2014, Viborg Museum carried out a minor trial excavation between the two mounds, where one of two symmetrically shaped anomalies from the 2014 geophysical survey, seemed to indicate the remains of a possible bridge structure and thereby the possibility of finding some datable wood (Fig. 4). The excavation did not reveal any traces of a bridge, but a possible pile of stones thrown aside by the local farmer on both sides of the earthwork. The excavation also documented a very steep bank and dry moat without any traces of a supporting turf or timber structure. The deposits indicate, that the dry moat had not stood open and in use for any longer period of time. However, it was difficult to discern the interface between subsurface layers and the overlying subsided layers of the moat. The cut appeared yellow against yellow (VSM 10178). The site is undated. Finds material from the 2014 investigation consisted of a few fragments of medieval roof tiles.

On the whole, an interpretation based on the form alone seems to indicate, that we are dealing with a classical *castrum-curia* structure. However, with the northern

mound's unusual shape in mind, an argument can be made for a more technical site interpretation. A more obvious function would be a possible earthwork for some form of siege machine – perhaps a catapult. This would also explain the positioning of the site on the middle of a slope and the precise orientation down towards the landfall access to Hald III (Fig. 5).

The unusual shape of the northern bank of Hald I has some parallels in the European castle material (Fig. 6a and b). The curved shaped sides and the strange 'earthen piles' are also found in the Czech siege site of Lichnice, where they are called *tongued sides*. In this case, there are seven marked sections along the sides exactly the same as in Hald. The site is dated to 1428–29 and is compared with contemporaneous source references to *Bastei* (bastion) or *Feuerstelle* (firing place) and *Befehlshaberposten* (command post) (Durdik 2006, 313–315, Abb. 5). The unusual structures, named by Colonel Lunn as 'towing tracks' are seen at a possible German siege site near the castle of Hardenberg in Southern Saxony (Küntzel 2006, 337–338). The site is broadly dated to the 12th–13th centuries and lies ca. 150 m as the crow flies

Fig. 5. Brattingsborg – Hald I is orientated down towards the landfall for access to Hald Castle – Hald III (photo: Viborg County Council 2008).

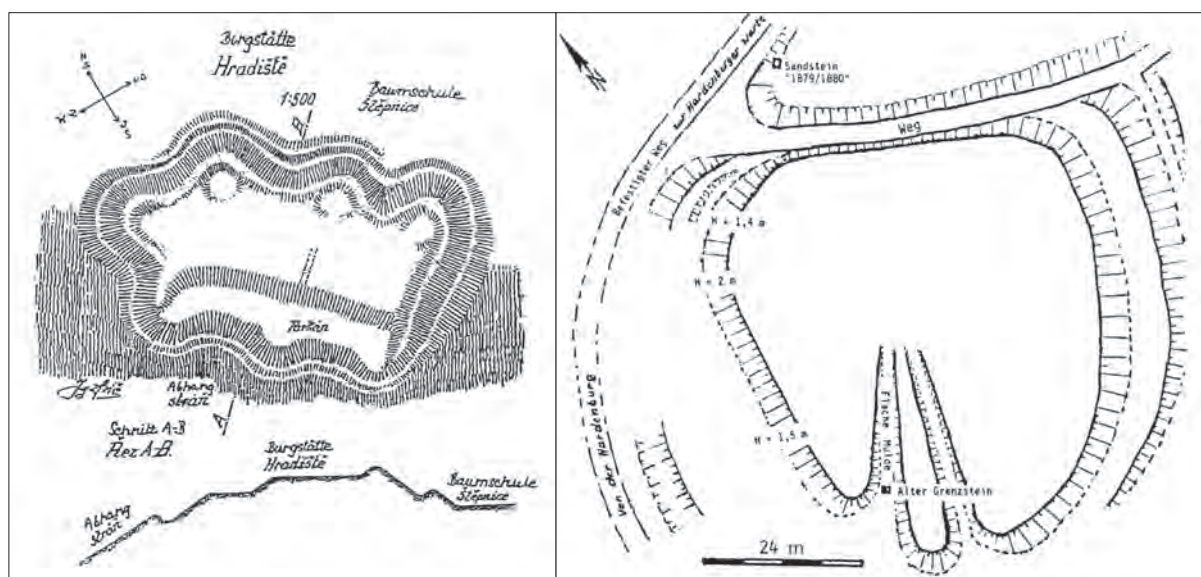


Fig. 6a. The Czech fieldwork site of Lichnice (after Durdik 2006, 313).

Fig. 6b (right). The German fieldwork site near the castle of Hardenberg (Küntzel 2006, 338).

from Hardenberg castle, where it guarded the northern approaches to the castle (Küntzel 2006, 353).

The fact that Hald I is divided into two banks is unusual compared with other earthworks, which often only consist of one single generally square bank (see below). The northern bank's elaborate and square shape most likely indicates the site for a war machine – a trebuchet. In 1990, at Runeberg castle in Germany a reconstruction of a large trebuchet was built based on medieval descriptions with relatively accurate dimensions from the 15th century (Kirchschlager and Stolle 2006, 38). The base surface of the trebuchet is listed as 14 x 10 m, which fits surprisingly well with the conditions at Hald I (see above) (Kirchschlager and Stolle 2006, 46).

A possible explanation for the piles of earth at both Hald (Fig. 7) and Lichnice could be that they represent the contents of the large earth filled wicker gabions, built to defend and protect the war machine and its men (see Fig. 17 and 19). This would also explain why there is no earthen pile in the middle of the northern edge at Hald I, as this would have obstructed the catapult arm.

The southern bank could well have had some form of settlement along its western side and it was precisely here, that tests showed an anomaly, which could be interpreted as a

large iron object or perhaps a forge (Larsen and Hjerminde 2010, 15). An interpretation as a workshop area does not seem improbable.

That the besieging forces chose to erect two and not one single bank must be due to the sloping terrain of the site. Here, it was more rational to build two banks – or terraces – staggered by up to 3 m in height, each with its own purpose and not placed together on one common bank as at the possible earthwork (and possibly contemporaneous site) at Dynæs (see below).

In England there are examples of a similar fieldwork with two banks at Bently castle in Hampshire. The fieldwork has shown to consist of a round motte surrounded by a substantial ditch, and an apparently undefended baily, measuring ca. 75 m in length and ca. 40 m in width. It is dated probably to 1147. Bently castle is situated 500 m south of Barley Pound and also at a distance of 500 m. Northeast of the besieged castle is another possible siege plant Powderham Castle which consist of a round motte (Stamper 1984, 81–82).

The distance between Hald I and the landfall to Hald III is ca. 170 m. From here there is a 200 m long causeway or bridge to and from Hald III. Following a direct line, there are ca. 350 m between Hald I and III, which is within the firing range of a medieval trebuchet,



whose range was typically 450–500 m (Alm 1956; Alm and Hoffmeyer 1956, 679–686; Kirchschrager and Stolle 2006, 39–40).

SIEGE WORKS IN WRITTEN AND ARCHAEOLOGICAL SOURCES

The written sources, especially those from the unruly periods of the 14th century are full of references to sieges, catapults and fieldworks. Some examples are:

Siege sites are named in accounts of the wars, which followed in the wake of Prince Vitslav III of Rugia's death on the 1st of August 1326. The power vacuum created by his death, led some of the North German nobility to attempt and take possession of the Duchy. They allied themselves with the exiled Danish King Christopher II (1320–

1326, 1329–1332) and he in turn endowed the nobility with the island of Rugia. A description from 1328 informs us over the course of 9 (originally 14 pages) of vellum of the pitched battles in Northern Germany (Diplomatarium Danicum 1948, 34–53, kilde nr. 38).

During the siege of Loitz Castle, these siege works are described as: “...well defended obstructing sconces facing towards the castle in order to bar the road” (Danmarks Riges Breve 1948, 33, kilde nr. 38). At a later date siege defences were raised at the village of Neuendorf: “When the war began, we feared the danger threatening the area of Wusterhausen by the enemy, to defend this place we built a defence with strong obstructing sconces along the banks of the river Ziese, near the village of Neuendorf” (Danmarks Riges Breve 1948, 36–37, kilde nr. 38). The siege site near the town of Grimmen was built at Galgenberg, i. e. gallow

Fig. 7. Earthen piles at Brattingsborg – Hald I seen from south. The earthen piles is possibly the contents of large wicker gabions (photo: J. Hjerminde 2014).

hill, which could indicate, that the site was built on the town's public place of execution – and could build on a pre-existing prominent high lying locality: “When the war broke out, the enemy assembled their campaign armies and invaded the lands of my Lord, they first sought to block the road for the town's citizens at a place by the River Tollense across from the Demmin Castle. The army divided along both banks of the river and they built a castle on a site, the townspeople called Galgenberg ...” (Danmarks Riges Breve 1948, kilde nr. 38)

The younger Chronicle of Zealand chronological lists of 14th century events names such fieldworks as “built camps” near Randers in 1359 (Olsen 1981, 61), where there are also references of siege machines and wall rams. These siege machines were also in action during the siege of Sønderborg in 1358 (Olsen 1981, 54) and there were 16 siege machines present at Helsingborg in 1362 (Olsen 1981, 64).

Thus, Hald I or Brattingsborg is best interpreted as a siege fieldwork (see digression below). Here, I want to draw attention to some other possible siege sconces from the Danish and German region.

West (ca. 300 m) of the large earthwork at Skjern (east of Viborg), there were previously traces of a low mound, of which local tradition told, once had been the site of a trebuchet oven (unknown function), and that locals had collected trebuchet stones here. Further west (ca. 400 m), there had also previously been a mound with a facing moat known as the Swedish fort. The date is unknown (Koch and Kristiansen 2010, 136).

A little east (ca. 150–170 m) of the rather impressive earthwork at Klejtrup there is an ‘island’ with a diameter of ca. 30 m from the foot of the earthwork. There is oral reference to uncovered traces of brick walls and posts. The date is unknown (Trap 1960, 288).

If we move east to Kalø Castle, some ca. 200 m west of the landfall for the castle's stone paved causeway, there is an irregular square surrounded by an earthen bank –

The Earl's sconce. The castle expert Hans Stiesdal described the earthwork in 1967: “For the moment, this strange earthwork, which seems to be without comparison in this country, must be seen as an enigma. It is impossible to say anything about its age or function” (quoted after Lauersen 2014, 297–298). The Earl's sconce fulfils a number of requirements of the classical earthwork (see digression below), i. e. its placement near the entrance to a large defensive site, its distance from the main site and the temporary character. The date is unknown.

On the northern shore of Lake Julso near Silkeborg, the fortress of Dynæs and a possible siege work Gammelkol are situated. The placement of the two bears a striking resemblance to the situation at Hald I and Hald III, but the distances are much greater. From Gammelkol to the landfall site, there are roughly 400 m and to the fortress Dynæs itself ca. 600 m. In 1360 King Valdemar IV conveyed the deeds of the fortress to Palne Jonsen (Trap 1963, 555–556).

Grimstrup Castle on the island of Lolland is also an impressive structure roughly 300 m in length. Grouped around the castle, there are three smaller more or less structures – all quite similar in construction. These are roughly square shaped earthworks measuring ca. 32 x 32 m and are encompassed by a bank and moat. The smaller earthworks, all situated ca. 130–150 m from Grimstrup castle are all possible earthworks (Trap 1955, 852–853). An absolute date is not known, but Grimstrup is named in the written sources from the end of the 14th century (Bøgh 2003, 115ff.).

If we move our focus south of Denmark, there are a number of exciting fieldworks in Germany. At Burg Tannenberg near Darmstadt, which was under siege in 1399, there are also three earthworks similar to Grimstrup. They are situated 200–300 m from the besieged castle and positioned to enable them a clear line of fire on all the approaches to the castle. The siege saw the use of two huge bronze cast cannons requiring up to

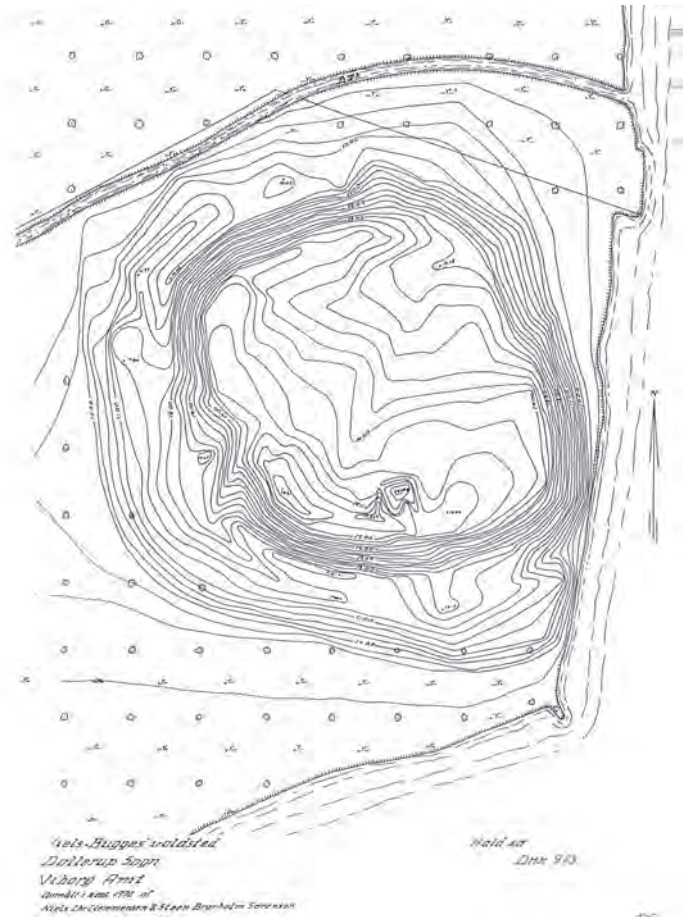
50 horses to bring them into position on the sconces (Atzbach 2013, 716–717).

The siege of Burg Eltz from 1331–1336 stretched over six years and the besieging force of knights under the Archbishop of Treves manned two siege sconces. One castle Trutz Eltz, which was ca. 80 x 100 m in size and was situated along the main entrance route into the castle and the other “Alte Burg” Castle, which contained a catapult (Wagener 2010, 218–219 and his contribution in this volume).

HALD II – OLD HALD

The Danish antiquarian Resen states in his *Atlas Danicus* from 1677, that Niels Bugge resided at Old Hald (Resen 1934, fig. 20). The third edition of *Trap Denmark* from 1925 refers to the castle as the homestead for Niels Bugge, perhaps in the wake of findings resulting from the archaeological activity of Krabbe and Smidt in 1908 (Trap 1925, 203). Niels Bugges Inn was given its present name at the end of the 1930s. Until then, it had been known as Bækkelund Inn, Restaurant or hotel. It seems probable, that the inn’s new identity migrated across the road and over to the earthwork opposite, which from the 1930s became known as Niels Bugges Hald; whilst the older nomenclature of Old Hald, as mentioned in the fief accounts of 1546 as oldhald, receded out of common use (Viborg Amts Stednavne 1948, 132). The prefix Niels Bugge’s Hald appears for the first time on a national map as late as 1980. A map by Julius Eibe from 1827 consequently uses Old Hald (Fig. 2) and the site is titled as such by C. M. Smidt in his rapport to the National Museum of his archaeological investigations of 1908 (NM 01/09).

The earthwork is situated on a peninsula, which originally would have been a small island jutting estwards out into the lake. Today, the site is surrounded by grassy meadows to the north, west and south.



The large ringwork like structure (Fig. 8) encompassed an area including crown banks, which measured ca. 75 x 75 m, roughly 5000 m² – which is nearly twelve times as large as Hald I. Measured at the foot of the banks it stretches ca. 90 x 90 m. Moreover, in front of the whole structure is an up to 6,5 m wide dry moat and a up to 15–20 m wide advanced bank; so that the entire site can be registered at ca. 13.750 m².

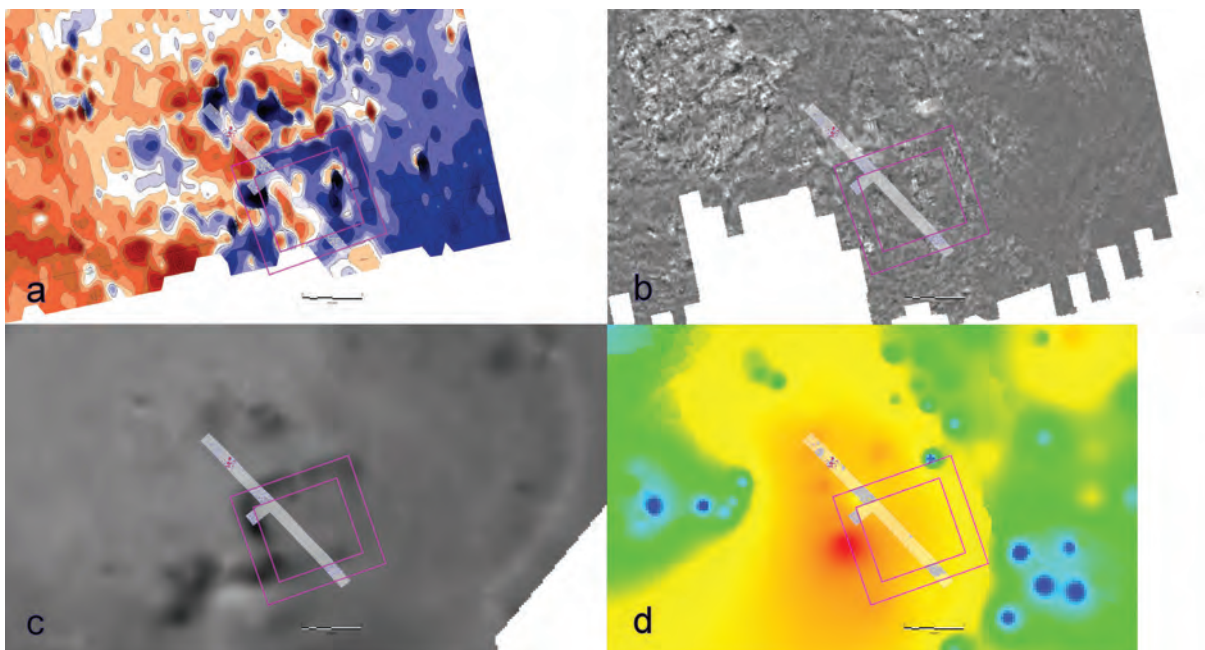
Christopher Krabbe carried out archaeological investigations in 1908. By the standards of the period the campaign was quite systematic with test core sampling, which resulted in small trial pits of 1 x 1 m, if stones were encountered during sampling. Unfortunately, these excavations were not mapped, but in the correct light such as on a February day with low grass, some of them can be observed. Krabbe’s efforts did not result any major findings and could not

Fig. 8. Contour map of Old Hald – Hald II. Survey by Steen Broholm Sørensen and Niels Chr. Clemmensen 1972 (The National Museum of Denmark).



Fig. 9. The re-excavated oven structure from old Hald – Hald II. About two third of the construction was frost damaged and destroyed over the course of the 107 years the structure has lain open to the elements. To the left the cellar marked with white and red strips (drone photo: E. S. Mauritzen 2015).

Fig. 10. The three utilized geophysical survey methods (a–c), which together with mole-archaeology (d) were used on Old Hald – Hald II. The newly found cellar is marked in red (drawing: L. A. Larsen, Viborg Museum 2015).



document any impressive structure. Only small sections of stone paving, a possible section of brick walls along the crown of the bank and an oven were registered by C. M. Smidt. A re-excavation of the site in 2015 revealed, that the exposed oven had suffered considerable damage – more than of the oven was completely frost damaged and destroyed. Smidt interpreted the oven as a baking oven; an interpretation that architect Johannes Hertz changed in 1975 to a hypocaust (Hertz 1975, 129).

The geophysical campaigns of 2010 and 2014 both corroborated Krabbe's findings (Fig. 10). Viborg Museum had an expectation of revealing evidence for a number of structures, perhaps the foundations of a large tower connected with the castle, which should date to one or more of the known 14th century estate landowners. Sadly, we could provide no such evidence. The only traceable evidence was that of a 10 x 10 m large cellar north of the oven that Krabbe uncovered in 1908 (Fig. 9).

In 2014 and 2015, an excavation campaign under the *Central Jutland* castle project resulted in three trial excavations, which revealed the remains of the cellar located by the geophysical survey (Fig. 11). Traces of stone paving connected with the cellar, were also uncovered just beneath the grass. The general lack of demolition material or any trace of a building was glaringly lacking. Within the cellar, there was just about no trace at all of demolition work and no foundation of any sort could be documented relating to the building, which the oven structure should have been a part of and should have heated up (Fig. 12).

The same lack of evidence was also true, when Viborg Museum 107 years after Christopher Krabbe's excavation re-deposited his spoil heaps from 1908 over the oven structure and his excavation site. Even here, there was an extremely low level of demolition material.

If this site truly is the old castle of the Eberstein family or Niels Bugge, it is



Fig. 11. The corner of the newly discovered cellar at Old Hald – Hald II seen from East. Notice the lack of demolition material (photo: Viborg Museum 2015).



Fig. 12. In the section North of the kiln is neither traces of foundations for a building or the demolition of the same, seen from South (photo: L. A. Larsen, Viborg Museum 2015).

supposed to have been torn down in 1393 (see below), then there ought to be abundant brick, tile fragments and lime mortar traces everywhere on site – this was simply not the case. From a royal grant by Queen Margrethe I we can indirectly deduce, that the building mass was so great, that the material was to be recycled for building works at Viborg Cathedral – in practice they were mostly if not wholly used to construct the Chapel of Our Lady (Bøgh 2003, 289; Severinsen 1932, 271 ff.). Amongst the spoil heaps there were finds of a well preserved coin minted under King Eric V Klipping (1266–1286), two

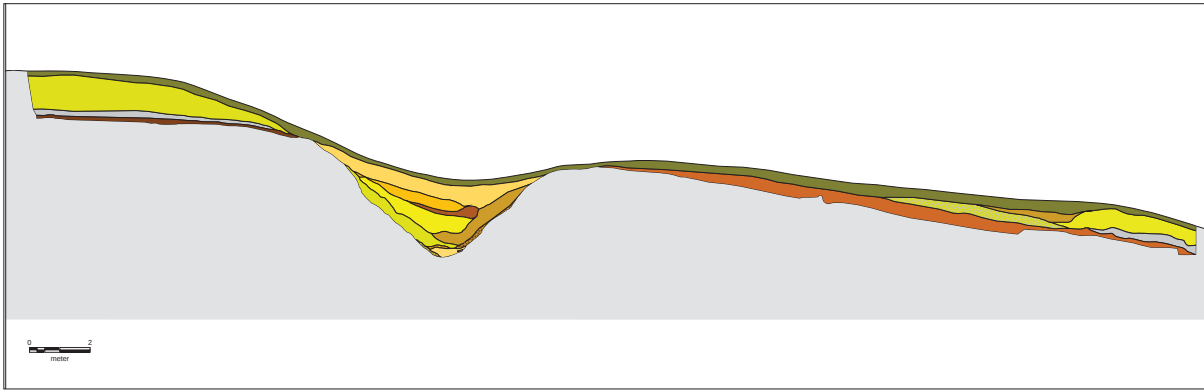


Fig. 13a, b. Archaeological survey and photo of the cut through the dry moat and advanced moat of Old Hald – Hald II (photo and survey: L. A. Larsen, Viborg Museum 2015).



pottery sherds of medieval character as well as small numbers of animal bones.

We do have another 13th century coin find from the vicinity of Hald. In 1924, a stray find of a coin from Valdemar II (1202–1241) minted between 1234–41 and in circulation until the end of the 1250s. The coin was found by Mathourne from Svendborg and the National Museum's records states that: "Here is a coin that I found on the site of Hald Stronghold, the Hald which once belonged to Niels Bugge's Hald" (NM 3/1924).

The use of the name Hald Stronghold is not known today, and there is some doubt about what was thought to represent Niels Bugge's Hald in 1924. Neither older nor younger maps utilize this place-name. The use of Niels Bugge's Hald appears for the first time in 1980 on a map, where the use of Brattingsborg and Jørgen Friis's Hald are also attached to the Hald sites. The third edition of *Trap Danmark* from 1925, the year after the coin was handed in to the Coin Cabinet of the National Museum contains a reference, where Hald II – Old Hald – is connected with Niels Bugge's Hald. It is somewhat unclear then, as to where exactly the Valdemar coin was in fact found. It could derive from Hald II just as well as from any of the other earthworks.

The lack of demolition material as well as all other finds groups was also evident during the excavation of the large archaeological cut through the bank, moat and embankment in 2015 (Fig. 13a and b). This would have been a large structure to construct, but it seems as if it was never finished. There were no traces of

either turf or timber reinforcements, just as there were no finds of artefacts or ecological evidence at the bottom of the dry moat.

Everything indicates that the large-scale edifice of Old Hald was never finished. There is building activity on the earthwork, but on a limited scale. The remains of both ash and charcoal were present in the oven structure, as noted by C. M. Smidt in his report from 1908, but he also notes a fact, that we could document again in 2015, that there was still soft yellow clay used as a binding material at the bottom of the firing chamber. The structure had not been used or fired hard enough, for the raw clay to become fired brick. Both old and new investigations of the site have only revealed few traces of any building structure. A peculiar feature, that also perplexed C. M. Smidt, who in his report interprets the phenomenon as the destruction of an older castle, upon which preliminary building works were carried out to prepare for a new castle; which however never took place. He writes: "All these peculiarities deserve a closer examination. It would seem that the site of Old Hald once contained a medieval building complex of some substance and size, possibly enclosed by a ring wall. All of these buildings were demolished and most of the material has been removed. At some later point, it would seem that layers of gravel have been laid out. It is possible, that there was an impetus towards a new period of construction; the first phase of which involved the raising of the mound level with the introduction of a gravel layer. The plans don't seem to have moved beyond this stage. There seems to be no further building work at the site after the destruction of the described medieval buildings" (NM 01/09).

In 2015, we interpret the evidence as the result of an abandoned castle construction site. The earthworks seem to have been carried out, but were never strengthened or reinforced against subsidence and construction work was only ever initiated on the very beginnings of a building.

The same conclusion was reached by an archaeological investigation in 2012 on the defended site of Hjortholm on a small island of the same name in Stavns Fjord, Samsø Island. Here two earthen banks are situated, whose construction must have required the movement of massive amounts of material. However, the moat around the northern bank was never dug out all the way around and there were no traces of any buildings. Construction work seems to have halted, just as at Old Hald and later abandoned, more than likely due to the advent of more peaceful conditions. The date of construction and abandonment of the Hjortholm site could be just after the unruly period in the wake of the King Eric V Klipping's assassination in 1286 (Etting et al. 2012, 96–97).

Werner Meyer has identified a number of "non-resided and unfinished fortress sites" among Swiss castles and fortresses. He put forward three criteria for the identification of this class of castle site (Meyer 1990, 296):

1. A lack of cultural deposits. Minimal material finds or animal bones together with low levels of phosphate.
2. Unfinished ditches and banks.
3. Foundation without any trace of wall structures.

The reasons for suspending and eventually discontinuing the building of a castle can of course be many, the most important might be perhaps a loss of economic capacity or a shift in a political power base against a new castle, which would be seen as a clear threat to the balance of power (Meyer 1990, 297). A possible cause could be the death of an instigating family or family member whose loss leads to the discontinuation of the project (Meyer 1990, 302). An obvious possibility could be the resolution of the strained political situation, that lead to the building plans in the first place by some other and more peaceful means than armed conflict.

From the examination of four unfinished castles in Germany Olaf Wagener adds the following comments to Meyer's criteria: The unfinished castle indirectly tells about quite

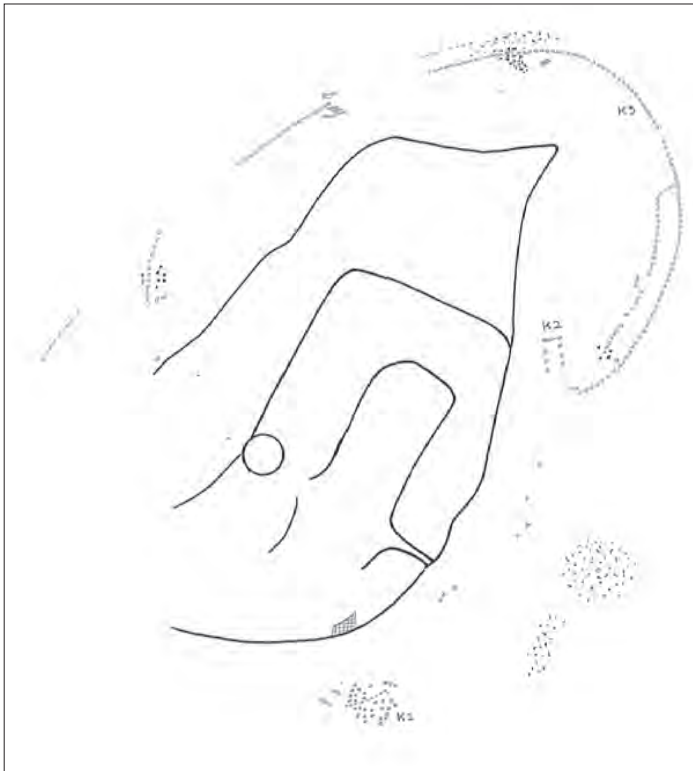


Fig. 14. A sketch of the documented driven oak piles on the bottom of Lake Hald in connection with Hald III – Hald manor (Gadgaard et al. 1984).

comprehensive planning for the building of a new castle by the contemporary architects and engineers. In the prioritization of the order of castle construction, the developer selects the defense elements that primarily ensure the building site. The first step is the construction of a moat and curtain wall, the second is the erection of the central castle tower (Wagener in press)

Hald II does fulfil both Meyer's and Wagener's criteria, but we cannot point to any one or number of causes, that lead to the abandonment of the project at Hald II. The coming excavations can perhaps give rise to some new interpretations.

One can point to the fact, that two examples of two abandoned castles is no statistically significant material, but a renewed review of older investigations and archaeological testing can more than likely add to their number.

HALD CASTLE – HALD RUIN – HALD III

Hald III seems to consist of at least three building phases. A younger phase, to which the majority of the present day ruins can be attributed, instigated by the Bishop of Viborg Jørgen Friis in 1528 (Hald IIIc). This falls outside of the scope of the present article and will be discussed in other contexts. The older phases can be linked to the period around 1423 (Hald IIIb) and perhaps to Niels Bugge's Hald (Hald IIIa).

The castle is located on a low peninsula, whose north-western side is connected to the shore by a 200 m long causeway. In this article we will deal with the indicative traces of possible older castle structures.

During the 1970s, Viborg Sports diving Club with Hans Gadgaard as primus motor registered systematic rows of piles driven into the lakebed (Hald IIIb) (Fig. 14). There are at least two systems. The largest of which consists of a couple of hundred poles, most likely all side branches from large mature oak trees with a diameter of 18–30 cm. The tops of the rounded poles are level with the lakebed at an elevation of ca. 7,50 m (Fig. 14, K3). Three of the poles have a dendrochronological date of 1423. A smaller system of around 50 squared poles (ca. 30 x 30 cm) was driven in the lakebed in front of the castles south-western corner forming a square-like structure. The squared poles are preserved to a height of up to 1,12 m (Fig. 4, K1). A single pole without bark or splint has a dendrochronological date of 1455, but it could of course be much younger. At some point after 1423 the water level of the lake was raised by up to 1,80 m by a dam at Non Mill (Gadgaard et al 1992, 265).

It should be noted, that the existence of the poles was already documented in 1856, where a description in an illustrated work on Denmark describes: ...and outside under the surface of the lake there is a magnitude of driven oak poles, whose original function is unknown (Vellev 1992, 232).

Fig. 15. The bishopric in Viborg was granted the castle of Hald – Hald III in 1393 by Queen Margrethe I on the condition, that it was to be torn down and the materials utilized for repairs and building work on the Cathedral. It is feasible, that these recycled building materials were used to erect the Our Lady chapel, which was added to the South side of the Cathedral. (photo: C. E. E. Rye 1863, Viborg Museum).

As yet, we only have a very sketchy overview of conditions on the lakebed, but there are indices for extensive reinforcement works ahead of a workplace on a small island in Lake Haldsø carried out in 1423. This could be an artificially raised space over one or two phases with a total area of up to 25.000 m² with Bishop Lave Glob as the instigator. In 1393, the bishopric was granted the Castle Hald by Queen Margrethe I on the condition, that it was to be torn down and the materials utilized for repairs and building work on the Cathedral (Fig. 15).

Both Bishop Lave Glob and later Bishop Jørgen Friis must of course have been building on the castle site they had been granted by the Queen in 1393. This must also mean that it was the remains of Niels Bugge's Castle, which were the point of departure for building activity in 1423.

The antiquarian Pontoppidan notes in 1763, that three Bishops had a connection with Hald: "King Eric of Pomerania confirmed this grant in 1404. Bishop Jacob then took possession of this new property and held Hald Castle as the seat of his bailiff, as did his successors until the Reformation. The castle's best buildings and defences were immediately torn down. It is doubtful, whether any fortification was ever built on the old site. The bishops must have quickly built some buildings, as we know that the last three catholic bishops all often resided at Hald Castle and in 1528, during the beginnings of the Reformation Bishop Jørgen Friis built and defended New Hald with a strong and secure bank for fear of being attacked by the citizens of Viborg" (Pontoppidan 1763, 677–678).

In connection with some restoration work on the castles Water Gate in 2012 (Hjermind



2014), during which spoil heaps from Krabbe's earlier excavations were laid out over the newly restored brick vaults, a small trial excavation trench was dug to document the character and depth of cultural layers. At a depth of ca. 2 m – the maximum depth for the mini digger – we could document a thick charcoal layer with roof tiles under backfilled earth. This charcoal layer had an elevation of 8,70 m (the bottom of the trench was

Fig. 16. Ceramic finds from the 14th century found in the lake bed by Hald III (photo: D. Schou, Viborg Museum 2015).



ca. 30 m under the present day lake water surface), which is ca. 1,20 m higher than the top of the pole rows from 1423 mentioned above, which lie at an elevation of 7,50 m. These activity layers are undated and can of course both date back to Bishop Lave Glob or older phases.

Two of Viborg Museum's numerous talented and experienced amateur archaeologists Ulrik Madsen and Jeff Staal have snorkelled around Hald III over a number of years. This has led to a number of finds from the castle's long history. Many of the finds stem from the period of royal stewards after 1536, whilst others are clearly medieval (VSM 09941). Amongst the ceramics there are sherds of certain 14th century context, in particular a base sherd from a plate or a bowl and sherds of a grey ware type jug with characteristic tongued base sherds (Fig. 16). Similar ceramics from Viborg Sønder sø can be dated to around 1300 (Hjermind 1998, 101–102).

As an historical source, the oldest collected folk songs are rather dubious. However, it is worth mentioning, that both Niels Bugge, his stronghold and a siege are named in song texts from the 16–17th centuries. In the song text “Herr Bugges Død” we hear in the first line of the first verse, that Niels Bugge rebuilds a new castle at Hald (Grundtvig 1966, 560f). In a reworking of the text by A. Fabricius in 1874 the song and history is as follows (Fabricius 1874, 24):

*Then came King Valdemar in the year 1355 to
Jutland and began to besiege Hald, which was
newly built.*

The very beginning of a long folk song about the death of Niels Bugge “Niels Bugges død”:

*Master Bugge he builds up Hald with honour
He wishes it not in any others hands*

That the castle was both strong and secure comes across from the words of Niels Bugge:

*At Hald I will meet his Lordship and bite
Whether he wishes to storm or fight*

And in the words of the King to him:

*I hear, that you build strong and fast
You fear not arrow or trebuchet cast*

And in Niels Bugges reply to the King's threats:

*Whether you'd rather storm or fight
Nine winters here from Hald I will bite.*

We are on more secure footing with the preserved letter correspondence from the last part of the 14th century. On March 15 374, King Valdemar V Atterdag resides at Hald and the castle is named as a royal keep in 1377, 1379 and 1387. Queen Margrethe I granted the castle to the Bishop of Viborg in 1393. This grant is confirmed by King Eric of Pomerania (1396–1439) in 1401, where it is also stipulated that King Valdemar V Atterdag “had received it from his enemies”. The sources do not stipulate whether Hald Castle had been under siege or was taken by force. But if a serious situation can be pinpointed, where Hald Castle might have come into the line of fire, then it could have been in 1372, when King Valdemar V Atterdag “is handed over” castle after castle “from his enemies” (Bøgh 2003, 36–37).

DIGRESSION

Siege works

Traditionally, all the castles and strongholds that we know of in Denmark are considered as defensive installations. It was here, that the crown or local magnates built defended residences surrounded by earthworks surmounted by some form of wall or palisade. It is undisputable, that many of these sites did indeed have such a function. However, if we move our focus from the defenders to

that of the attackers; then we get another and more differentiated view.

With the advent of a dangerous situation, a local magnate could choose to secure his family and possessions with the use of a stronghold. Now and again political developments overtook an on-going building activity, making any further work irrelevant. Old Hald – Hald II is such an abandoned defensive site.

If the opposite was the case and a political situation escalated out of control, it would lead to defenders seeking security behind their defences, bringing ample supplies, raw materials and weapons to withstand and hold their fortress for a period of time. As soon as the drawbridge to their stronghold was drawn up – although they could safely defend themselves; their movements were extremely limited. They were literally locked into their castle. Hald IIIa and IIIc is such castles.

An attacking force, on the other hand, also had a need for surveillance and control of

the defenders to alleviate against any counter attack from a castle, town or relieving allied force. This could take place from fieldworks such as a sconce and it is in this light, that we should understand the building of Hald I – Brattingsborg.

The identification of possible offensive and siege installations

A 14th century war campaign can be summed up as follows: An enemy force approaches and the defenders could now choose between a peaceful surrender. If this did not take place, then the attackers could try via bribery or trickery to gain access to the fortress or town. The next step would be an assault with incendiary arrows followed by a full-scale assault. If the attackers were unsuccessful in taking the fortress, then a siege would begin and fieldworks were built controlling access to and from the site (Danmarks Riges Breve 1948, kilde nr. 38).

Fig. 17. A drawing by Albrecht Dürer depicting the siege of Hohenasperg in 1519, shows cannon positions protected by earth filled wicker gabions defences, they can be seen in the bottom left corner just to the left and in front of the lansquenets field tents (Jungnickel 2010, 262).





Fig. 18. Glass Painting of the knight Henrik Plot from the north window in Døllefjelde Church on Lolland (1350–1400). Henrik Plot carries barrel helmet, shield and sword. He has chain mail under a Lamellar iron gloves and shines on the thighs and lower legs (photo: The National Museum of Denmark).

The physical structures that a given attacker or defender could utilize during a long siege or a direct assault as described above can be registered, described and investigated in the present day physical landscape and can contribute to our understanding of medieval warfare as well as uncovering evidence or nationwide or more localized conflicts.

The physical points of departure in the landscape can of course be more or less comprehensive, depending on the time perspective, which the attackers calculated on in the heat of an imminent frontal attack or a drawn out siege. A factor in these considerations is also the strength of one's opponent and the possibility of retaliation from their allies, who could be operating in the hinterland:

- I. No matter the character of any given campaign, an attacking force needed some form of military camp offering the possibility of sleeping quarters, meals, medical treatment and workshops for repairing weaponry and arming their force (Fig. 17). This basic camp was often placed so far behind the line of conflict that it could not be fired on from a defending castle and did not necessarily need the same fortification provisions although it had to be defended against attack from the defending allies.
- II. Already during the establishment of the military camp and whilst the knights, archers, war machines and their train of supplies were marched up, a psychological game began, in which the attacker showed their strength in force and the defenders exhibited their will to defend themselves. There could be considerable numbers of forces involved.

In 1327, the Greifswald record, written by “consules novi et antiqui, necnon commune civitatis Gripeswold” (Danmarks Riges Breve 1948, kilde nr. 38) lists the size and contingents of some of the warring forces present at Loitz, where the defenders were assembled: “The mercenaries came from everywhere as well as some vassals from the other side of Swine, so much so that we had 80 armed knights on war horses and 250 good and brave men, which we could find among the foreigners as well as ourselves and our citizens, who we enjoined to keep warhorses and riding horses with armed men to them” (Fig. 18). Later Earl Gerhard of Holstein sent 600 well-armed knights with war-horses to help (Danmarks Riges Breve 1948, 34–35, kilde nr. 38). During a break out attempt from the town Greifswald the source names, that the defenders sent 14 helmet clad knights and up to 600 well-armed men against the attackers 32 knights on war-horses and foot soldiers (their number is not given) (Danmarks Riges Breve 1948, 41–42, kilde nr. 38).

The very approach of massive attacking force was enough to enforce the surrender



Fig. 19. The military engagement at Rotebro in 1521 depicted as a woodcut in Olaus Magnus's Historia de gentibus septentrionalibus from 1555. The Swedes had ensconced themselves behind palisades and two massive earth filled wicker gabions and removed a part of the bridges planking (Magnus 1555, 178).

and break the resolve of the defenders. If the campaign dragged on and the attackers built earthworks, this would also be a manifest way to show that the attackers were committed to upholding the siege and fight until the defenders had surrendered. The war machines did not even have to come into play, their very presence and their inherent threat of destruction was often enough to ensure a resolution.

III. From the advanced positions an attacker would primarily monitor and besiege defenders. Secondly, they could be laid out so they also could return fire on the defending force. If it was placed too close

to a castle, they could receive fire from a castle's war machines (and later cannons). Even though an attacking earthwork was smaller than the permanent castle and often of a temporary character, the attackers would face a number of fortification challenges, which were strikingly similar to those any castle's defenders also faced. These were as stated above on a smaller scale, as the daily activities of the basic camp such as meals, workshops etc. were not directly involved in military exchanges. This was not the case for the defending castle, which was the focal point of the conflict. In the case of a longer siege, then the siege works would more than

likely take on a larger, more stationary and permanent character.

- IV. If the sole function of an earthwork was to guard the lines of approach to a site, it must of course be placed strategically well placed without been within firing range of the defenders.

There are a number of different ways, in which a possible conflict site or fieldwork can be localized:

- A. If there is a known episode from written sources, in which a castle has been under siege or attack; then there should theoretically be a possibility of locating a fieldwork fortification relating to it.
- B. If two or more fortifications are placed in the vicinity of each other, they can be indicative of warfare. Of course, it could simply be the case that a younger more modern one has replaced an older stronghold. Logically, any owner would normally use an existing earthwork as a foundation for a new building phase. If it is a possible sponce, then the two structures should be roughly of the same age. The sponce cannot be older than the defending castle, but it can be younger.
- C. Topographically, an earthwork should be strategically placed in the landscape enabling it to fire on and watch over access routes to a castle and in some cases the castle itself (Fig. 19).
- D. It belies in their very nature that earthworks are not built with the primary goal of being used for a long time. Any archaeological investigation should therefore not expect the same finds material, that is typically found in a defending castle in function over longer periods of time. It is logical, that the volume of finds rises in correlation with its length of use in a siege. An intensive metal detector survey of the castles environs should reveal any possible base camp. The optimal conditions are found near castles, where we know of siege activity over a long period of time (Wagener 2006).

The attackers could ensure by means of a siege that any defenders could no longer actively take part in a conflict and seek to starve them out. An attacker should preferably have the possibility of monitoring the movements of defenders and at the same time place themselves to prevent counterattacks from a castle or from defender's allies. The central and most vulnerable aspect for the defenders was of course the access routes either in the form of a bridge, causeway be it of stone, wood, a bridge or a drawbridge.

SUMMARY – A NEW INTERPRETATION OF THE HALD FORTIFICATIONS

As a working hypothesis for future investigations at Hald, the present time-line for the three fortifications is as follows (Fig. 20):

Old Hald (Hald II) is the oldest and can be regarded as a fortification planned on a large scale, which however does not seem to have been fully built. The extensive banks were never secured or strengthened with turf or timber. The main castle area contains only meagre traces of settlement activity: An oven structure, a cellar and the remains of some stone paving. Had there been human settlement over a long period of time, then both Krabbe, Smidt and present day archaeologists should be able to find traces of rubbish or demolition in the form of bricks, mortar etc., but this was not the case.

The site is not securely dated – as of yet we only have a stray coin find from the reign of King Eric V Klipping. Eight OSL samples were sent to Risø in March 2015 for dating.

The oldest Hald Castle (Hald IIIa) that served as the possible homestead for Niels Bugge lies under the remains of the younger Hald Castle (Hald IIIc).

The Hald of the 14th century is based on a handful of uncertain indices: folklore songs and texts, the somewhat loose statements of

Fig. 20. *A proposal for a chronological and functional ordering of the earthworks at Hald (drawing: L. A. Larsen, Viborg Museum 2015).*

the contemporary written sources naming a possible siege in 1372, finds of 14th century ceramics, cultural deposits showing activity 2 m under the present day surface and driven oak piles dating from 1423 possibly framing an older site. The strongest indicator is probably, that it is here at Hald III, where the bishops of Viborg carried out their building works after they were granted Hald Castle by Queen Margrethe I in 1393 and not at Hald II.

Brattingsborg (Hald I) is interpreted as an siege earthwork primarily on the grounds of its placement, size and shape. And as a fine example of circle argumentation, a siege earthwork at Brattingsborg – Valdemar's Sconce could of course only besiege and control Niels Bugge's castle, which therefore should lie out in the lake as Hald Castle does and vice versa.

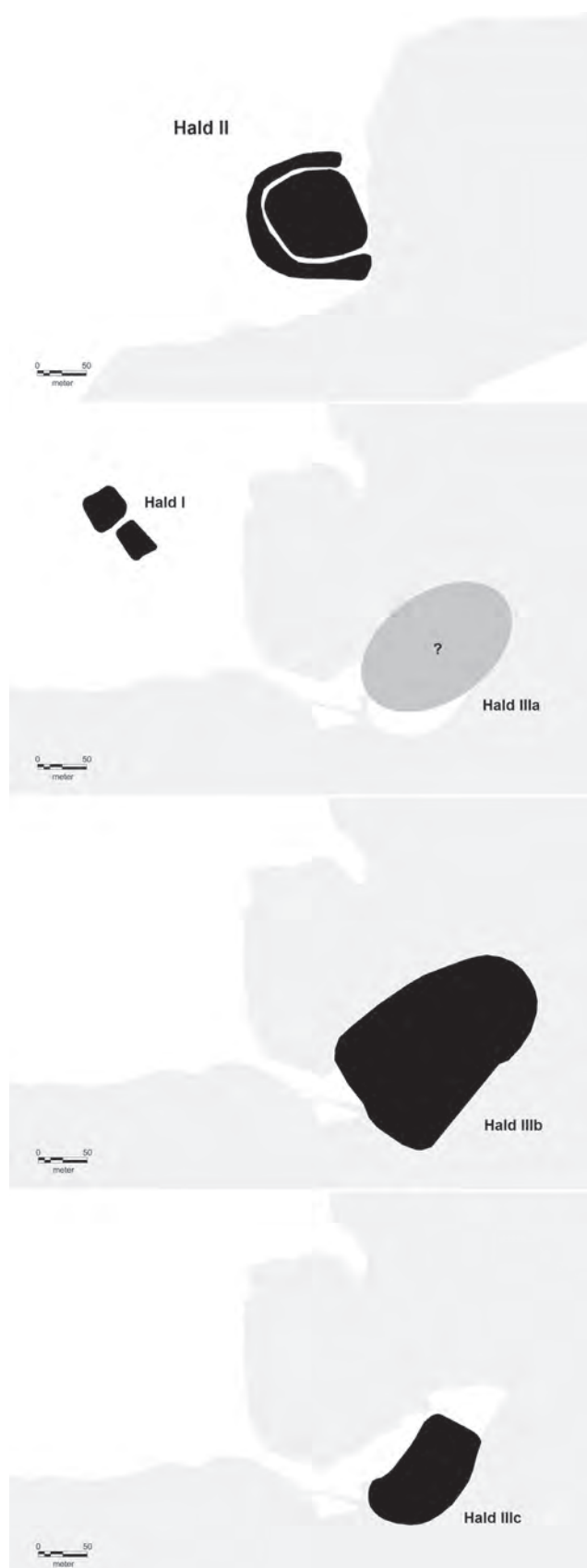
The local partnership 'The 5 Hald's' have succeeded in securing funding for a major communication project, which can tell the story of these strongholds and the Hald Manor around Lake Hald Sø. Renewed archaeological investigations are also built into this plan, whose results can hopefully verify or falsify the new Hald hypothesis.

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Jesper Hjermin
 Viborg Museum
 Hjultorvet 4
 8800 Viborg
 Denmark
 jeh@viborg.dk

The image is a full-page background photograph of a forest. The top half shows a dense canopy of bare, brown tree branches against a pale sky. The bottom half shows a forest floor covered in fallen brown leaves, with several tall, slender tree trunks in the foreground. A semi-transparent green rectangular box is overlaid on the upper portion of the image, containing white text.

PART II: CASTLES DURING WARFARE AND SIEGES

THE AFTER MATH OF A SIEGE
– THE CASTLE AND ITS SURROUNDINGS AFTER A SIEGE.
BASED UPON LOCAL ASSEMBLAGES FROM LOLLAND-FALSTER

Leif Plith Lauritsen

THE AFTER MATH OF A SIEGE – THE CASTLE AND ITS SURROUNDINGS AFTER A SIEGE. BASED UPON LOCAL ASSEMBLAGES FROM LOLLAND-FALSTER

Leif Plith Lauritsen, Denmark

ABSTRACT

The after math of a siege left a lot of chaos to bring order into. The castle had either to be rebuilt or left to fall into ruin. In case of the latter, we might be so lucky to have the battlefield relatively well preserved. This paper will try to show different types of traces that can be interpreted as remains of a battle, exemplified with the castles Refshaleborg, Eriksvolde, and Grimstrup on the Danish island Lolland. These three castle sites are very different: The first, Refshaleborg, was totally destroyed and never rebuilt again, the second, Eriksvolde, remained a building site which never was finished and just was overrun. The last, Grimstrup, consists of the castle itself and tree earthworks erected by the besiegers as redoubts. They are well preserved even though the main castle had only endured the end of its siege for 30–40 years.

THE CASTLE AFTER A FIGHT

The castle, for the man on the Clapham omnibus, represents one of the main icons in the perception of the Middle Ages, perhaps only surpassed by the knight, who of course is connected to the castle. While the theme of our symposium was “Castles at War”, this paper will not only focus on the siege itself, the attack and the fortifications - but also what is left behind after a siege, in particular the traces we are left with on Lolland Falster, some of which can still be seen if one knows where to look.

This leads to the question, whether it is – by any means – possible after at least 500 years – to find physical traces in the landscape that can be interpreted as traces of

a siege. This is a very important question, and one that may have many different answers.

In the hunt for locations or castles, with preserved traces of a siege, it is important to look not only at the moated site but also to take a closer look at its surroundings. And surely one has to set up criteria and elements to look for in this hunt. Elements, such as odd placed ditches, moats and/or ramparts, located close to the castle but still outside the defensive constructions of the castle itself. If it is possible to find these elements, one should test, if they could have been created to control, for example, roads leading to and from a castle.

If this physical evidence is present, there must be some extraordinary conditions that

*Previous page:
Grimstrup
Castle (photo:
L. P. Lauritsen).*



are in play. These conditions, discovered through archaeology, could primary be that the castle never was rebuilt after a devastating siege. In some places, we find the defensive earthen structures that the attackers built themselves. Oddly enough, in some places these were never destroyed since the siege had ended. And even today they might be still visible. Finally, excavations may reveal assemblages of arrowheads, lost weapons, or even body parts, as is the case with the Swedish/Danish castle Lindholm. Here body parts were found in the courtyard, which was covered with a new layer after the battle, resulting in body parts, such as a hand, were left behind (cf. Anders Reisnert's contribution to this volume).

As the considerations for each castle will be explained in greater detail in their respective sections, I will only make a short overview here:

- **Refshaleborg:** here we have some written sources which recount the siege and destruction in 1256.
- **Eriksvolde:** an excavation revealed that the site was never finished.
- **Grimstrup:** primarily strange earthen

banks, ditches, or small, fortified sites surrounding the greater moated site known as Grimstrup Castle evoked attention here.

I have chosen these three castles, or rather, moated sites, among the island's more than 50 medieval castle locations that are preserved as moated sites (Fig 1).

REFSHALE CASTLE

The first moated site I will review here is also the oldest of the three, namely the Refshaleborg on Borgø Islands in Maribo Sø and its siege in 1256. The last time Refshaleborg is mentioned is in the Lund Chronicle: "Hoc anno obsessum fuit castrum Ræfshalaburgh et destructum" (Kroman 1980, 65). This year (1256) the castle Ræfshalaburgh was besieged and destroyed) – and, as proven through excavations, it was never rebuilt (Lauritsen 2006, 91).

The large and impressive site of Refshale Castle consists of an up to 8 m tall circular mound with a diameter of circa 93 m. In

Fig. 1. Map of Lolland-Falster with the three castles mentioned in the paper (Museum Lolland-Falster).



Fig. 2. LiDAR Map of the Refshale castle site (Geodatasyrelsen 2015).

front of this are three ramparts and a smaller outer bailey (la Cour 1972, 186–190). The bailey area covers an area of ca. 85 x 23 m (Fig. 2).

The earliest mention of Refshale Castle is in “Danish Census Book” (Danish: Kong Valdemars Jordebog) by King Valdemar II from around 1231 (Nielsen 1873, 73). However, the finds from the archaeological excavations has shown that the site had a settlement from the 800–900s AD and we find pottery in the ramparts indicating that the site could have been fortified as early as during

the 900–1000s AD (Lauritsen 2006, 98). In 2004–2007, The Museum Lolland-Falster carried out excavations in smaller areas of the mound. These excavations revealed parts of the now vanishing castle, telling the story of the fall of the castle (Lauritsen 2006). They show that, originally, a wooden bridge about 150 m in length and 4 m in width connected the northern bank to the northern side of the island. Even today, the wooden posts from the bridge can be seen in the shallow waters close to the shore (Fig. 3). These wooden posts are dendrochronological dated to the period 1200–1230, which indicate a building period at the start of the 13th century (Bonde 1991).

From the mainland shore to the shore of the island our divers have followed these poles the entire length of the bridge. Except for approx. 8 m – located in the middle between the island and the opposite coastline where there must have been some sort of drawbridge (Lauritsen 2006, 86–98).

This wooden bridge must have been the castle’s everyday access road. Via the bridge it was easy to transport the many bricks from the brick kiln excavated in the field just around 100 m north of the bridge (Lauritsen 1991). It is likely that this kiln produced the

Fig. 3. The wooden posts from the bridge can still today be seen in the shallow waters close to the shore (photo: L. P. Lauritsen).



bricks for one of the later building period of the castle. The bridge led to the western castle gate. Even today, one still can see the ramp that led to the gate.

Of course, this bridge would have been well guarded, and the possibility of being able to destroy the drawbridge, as well as the rest of the bridge, did not make it a severe weakness in the defense of the castle

The excavations also revealed a large and extensive curtain wall. Its foundation can be followed around the mound edge and appears as a significant curtain wall at approximately 1.6 m in thickness.

But the discovery of both the foundations with a brick wall and foundations without any remains of a brick wall indicate that the wall probably was under construction when the last attack came - and it was never completed. In the excavations on the rampart, around the upper edge of the mound, the foundations for the planned wall was found; there was no evidence of palisade in any of the excavations. This does not rule out that, the castle could have been fortified with palisade in other areas where the curtain wall was not yet started. However, we did not find any traces that could be interpreted as remains from a palisade, no wood and no postholes.

This castle's defense consisted mainly of three elements:

1. The castle's location in the lake, thus giving the castle a minimum 120 m wide moat
2. Ramparts in front of mounds to the east
3. And the walls and possible palisades.

It is obvious that the castle designers planned the defense of the castle against an attack from the island's east end. From here it was possible to land troops and lay siege to the castle. But in spite of the defensive system, the castle was besieged and completely destroyed.

The attack

In 1256, the Danish king, Christopher I, was in conflict with the church. Countless examples of disputes between the king and the church are recorded, and the king's accusations against the bishops includes encouraging peasants to rebel against the king. A rebellion did come in 1255 and 1256, whether inspired by the bishops or not (Lauritsen 2006, 91).

Many of the royal castles were besieged and destroyed during the revolt and, since we know that the castle Refshale was destroyed in 1256, this traditionally has been connected to this rebellion.

However, I do not find it very likely that a mob of peasants could besiege and destroy a castle the size of Refshale Castle. At least not on their own, there must have been a rather big group of professional soldiers participating in the siege. The amount of war arrowheads, primarily bodkins, found during the excavations point to this as well.

Furthermore, the strongest castle belonging to the bishop of Odense (in the Middle Ages Lolland and Falster belonged to the episcopate of Odense) is located only 5 km from the Refshale castle, the castle is called Ålevad.

Since we only know of the one attack on the castle it is easy to assume that the findings during the excavations might tell how this on the castle proceeded, but of course there may have been unknown attacks that may disrupt the picture. In the two smaller excavations, at the head of the bridge, nearly 90 bodkins, an axe, a spur, as well as other items, were found (Poulsen 1991).

The concentration of bodkins around the head of the bridge makes the excavator (Poulsen 1991) assume that the attack came via this bridge. The evidence does suggest that the attackers did manage to cross the bridge faster than the defenders could destroy it, afterwards conquering the castle.

After the victory, the castle was then, as mentioned before, "destructum", destroyed not just a little bit, but in such a definite



Fig. 4. Parts of the curtain wall has been toppled into the castle, here the remains of the foundation 160 cm wide (photo: L. P. Lauritsen).

manner that it was not to be rebuilt. The parts of the curtain wall that had been built were toppled into the castle (Fig. 4).

Generally speaking, we assume that the demolition of the curtain wall and the other buildings of Refshale Castle were so effective, that only very few bricks still are in their original possession no higher than two courses of brick work. Of course, this destruction, or parts of it, may have accrued in the centuries after the siege, but the evidence suggest that the wall was toppled inward and the amount of bricks preserved at the site indicates that the destruction of the castle cannot purely be connected to the looting of it.

The result of excavations can be interpreted as follows. In the coming years up to 1256, the Refshale Castle was subject to a renovation and / or improvements, which

were not completed before the fatal attack took place, and after the attack, the castle was abandoned.

Let us now move forward in both time and space away from Refshaleborg, to an area north of Maribo, where the moated site Eriksvolde is located.

ERIKSVOLDE

Eriksvolde is not known in any written sources. It is an anonymous moated site and would not have been noticed if it was not due to its size (app. north/south 155 m, east/west 105) (Fig. 5). The site itself has been known for many years and suggestions for its dating have been made in two earlier articles (la cour 1972, 182–185; Stiesdal 1992, 155).

The embankment is composed of two square ramparts whose top surface is about 17 x 17 m. These are surrounded by moats and a double crowned rampart. A part of the outer rampart functions as a bailey 40 long x 12 m wide with moat on all 4 sides. All of this is surrounded by yet another moat and an outer rampart. Finally, a narrow rampart leads from the outside to the Bailey thus indicating the entrance to the site.

Because of the name, which means “Eric’s earthwork”, it has been thought that it had an association to the Danish king Eric II. Emune (1134–1137). Nothing is known about the origin of this toponym that might be derived from the same source as the nearby village’s name Erikstrup that is mentioned firstly as “Erixstorp”, i. e. Eric’s village, in 1329 (Trap 1955, 839). However, during the excavation in 1977, finds of wooden posts from the bridge that went from the Bailey to the southern motte and another bridge from this to the north motte gave a precise dendrochronological dating to the years around 1342–44 – perhaps up to 45, placing it around the time of King Valdemar IV (Poulsen 1992, 109).



Fig. 5. LiDAR Map of the Eriksvolde rampart/castle site (Geodatastyrelsen 2015).

There is no visible construction on the embankment but the excavation in 1977 found traces of two buildings: in the northern embankment the remains of a forge were discovered, which was used in the castle's short life. Here were found some horseshoes, unfinished and finished bodkins, nails, etc. (Poulsen 1992, 117).

The other building found was the remains of a house, burned shortly before the construction of the castle. It was excavated under the double crowned rampart – maybe belonging to an earlier settlement that was burned in the turbulent years around 1345. Thorough studies of particularly the moat and ramparts showed that these were built with care. This was not a hasty dug and fortified site – but a site that was planned and thought through. Though, there is evidence to suggest that this castle was perhaps not finished when it was attacked and later abandoned.

The access to the bailey went, according to the excavators, over a low and narrow rampart. This rampart was just as carefully made as the rest of the ramparts and also topped with clay, but it was somewhat lower. In fact it was so low that the excavators interpreted it as a ford just under the water

surface. They regarded it as a possible primary access to a nearly completed moated site, an access one had to wade through the water to get to the castle (Poulsen 1992, 112–113).

This, however, is very unlikely. I do not believe that this low rampart was intended to be permanent. Firstly, the surface of it is clay. All who have tried to walk on wet clay know how slippery this can be – and here as a permanent access to the castle – it does not seem credible. I think it was to be removed after having built the castle and then replaced by a bridge and the drawbridge.

The excavators mention the possibility that the castle was never completed, but on the other hand they believe, based up on the few centimeters of culture layers, that it is more likely that the castle was finished, but only in operation for a few years (Poulsen 1992, 119). I believe that it is possible that the layers are simply traces of the everyday functions of the castle while it was under construction.

In spite of ten sections that cut through the ramparts and carefully digging on the top surface of the ramparts no traces of a palisade or post holes were found (Poulsen 1992, 115).

The low rampart and the lacking posts of a palisade, except the posts in the moats, indicates as I see it, that the castle was not finished yet.

In any case, it makes sense that a crow's foot was found just outside the low rampart. No matter whether you had finished with that part of the fortifications or not, if attacked this would have been a good surprise for any attacker.

Bodkins were also found in addition to the crow's foot, though not as concentrated as seen at Refshale Castle. Whether these were merely lost or the result of an attack is unknown.

The excavated wooden structures are dated to the period around the years 1342–44 (Poulsen 1992, 109) and all the items are dated to the first half of 1300 (Poulsen 1992, 119).

What is striking is that the castle seems to have been abandoned possibly before it was even completed, despite the amount of work put in it to build the impressive earthen monument. This makes one think that the castle was attacked in an unfinished condition. Or maybe it just had a short life before it was destroyed. It may have lost its strategic importance, so it lies as it was left.

The dating of the wood in the embankment fits quite well into the history of Lolland. In 1346 and 1347 Lolland and Falster is the scene of many violent battles. This is primarily the result of the Danish king Valdemar IV and his attempts to recapture Denmark from German mortgagees.

From various sources, we hear about that part of Lolland was conquered in 1346. The rest of the island was captured during the 1347 (Huitfeldt 1601, 484–485).

For example, we know from the younger Zealand Chronicle that the High Steward led the army over Lolland after Epiphany (January, 22nd) and besieged fortresses there (Olsen 1981). Eriksvolde was undoubtedly one of the mounds that were besieged and conquered.

GRIMSTRUP

Unlike the first two moated sites mentioned in this paper, Grimstrup, in Lysemose Forest, while having been known for many years (Trap 1955, 852), has not been the aim of an archaeological investigation.

Fig. 6. LiDAR Map of the Grimstrup castle site (Geodatastyrelsen 2015).



Grimstrup is quite a substantial mound. The moat measures 280 m from one side to the other. The castle consists of three main mounds where the middle is lowest and the eastern the highest, measuring up to 5–6 m in height (Fig. 6).

To the west of these mounds are three moats and on the east side are four moats. One thing that is worth noticing is the small square banks at the end of the lesser rampart that is located in front of the highest and steepest rampart at the site (Fig. 7).

While this type of fortification is not known in Denmark, castles built by the Teutonic Order, such as Gollub Castle in Poland, do contain this type of fortification (Hermann 2006, 112). This type of construction is characterized by protruding towers, which are connected to the castle via a bridge. They are of course found in other places, but I have not seen them anywhere else in Denmark.

The whole Castle is surrounded by a swamp which still today is quite impassable (Fig. 8). We know that this moated site belongs to the Royal Estate, possibly from around 1347, but surely in 1390 when Margrethe I, Queen of Denmark, seizes the castle as a fief (Trap 1955, 852). In 1396, the queen gets the castle back and around 1400 she orders the castle to be demolished and the stones to be used to make a monastery in the nearby village Skimminge (Norn and Roussel 1958, 29). In 1396 the Queen issued a ban of castle where she forbids private to consolidate/fortify their farms or castles: *“Since very little justice has come from the fortifications which have been built up to now, We forbid the building of new fortifications or castles, in order to restore peace, law*



Fig. 7. Close up of the LiDAR map showing the small square banks at the northern and southern end of the lesser rampart that is located in front of the highest and steepest rampart at the Grimstrup Castle (Geodatastyrelsen 2015).

and order in the country. Therefore we order the royal vassals and officials not to permit anyone to build fortifications or castles” (Etting 2010, 77). With this ban on castles she also orders that a large part of the castles in Denmark be demolished and the material from these castles used for at church, as with Grimstrup, or monastery buildings, which is also the case here.

As mentioned earlier, we know that, “high steward led the army over Lolland after Epiphany and besieged fortresses there,” (Huitfeldt 1601, 484–485) and, certainly, it was not only Eriksvolde but also Grimstrup.

This is far from the only evidence that shows us that the castle was besieged. Looking away from the castle evidence of a siege can be seen in the landscape. To the east, south, and west of the castle are three smaller embankments. This could be interpreted as three siege ramparts/castles (Fig. 9).

These three smaller embankments share similar characteristics in that their embankments and their moats are relatively low and shallow when compared to the castle. Moreover they are placed in such a way that they can cut off supply possibilities from the outside, and,



Fig. 8. Grimstrup Castle (photo: L. P. Lauritsen).



Fig. 9. The three siege earthworks (Geodatastyrelsen 2015).

finally, they seem to be only temporary. Unfortunately, the western mound was destroyed by a road or the like, which led over it. But copying the fortification from the east in top of the ruined one, one can perhaps see how this mound looked like.

The distance between the castle itself and the two fortifications to the east and west is approximately 100 m. About 200 m to the south of the main castle and the mounds is a siege earthwork, slightly larger than its counterparts. While this could be interpreted as the evolution of a singular fortification, the placement of the earthworks points to a different picture.

The placements of these defensive structures in the landscape are ideally placed to provide defense for the attackers, being placed in such a manner that provide defense from arrows or quarrels fired from the castle, while still being able to attack it with trebuchets placed on the earthworks themselves.

In Demark, there are very few examples left of these siege fortifications, one of the few examples could be the one seen at Tørning castle, located in the Southern part of Jutland (Fig. 10) (cf. Jesper Hjerminde's contribution in this volume).

So here, we simply have a picture of a siege. The fronts are clear. And it is close to the end of the siege – it is possible that what can be observed is the last attack itself.

Around 1900, the site was cleared of wood. It was then observed that the castle probably was destroyed by fire (Trap 1955, 852). So a firestorm could have destroyed all the wooden buildings and palisades, but was the burning the result of the attack or was the castle burned afterwards?

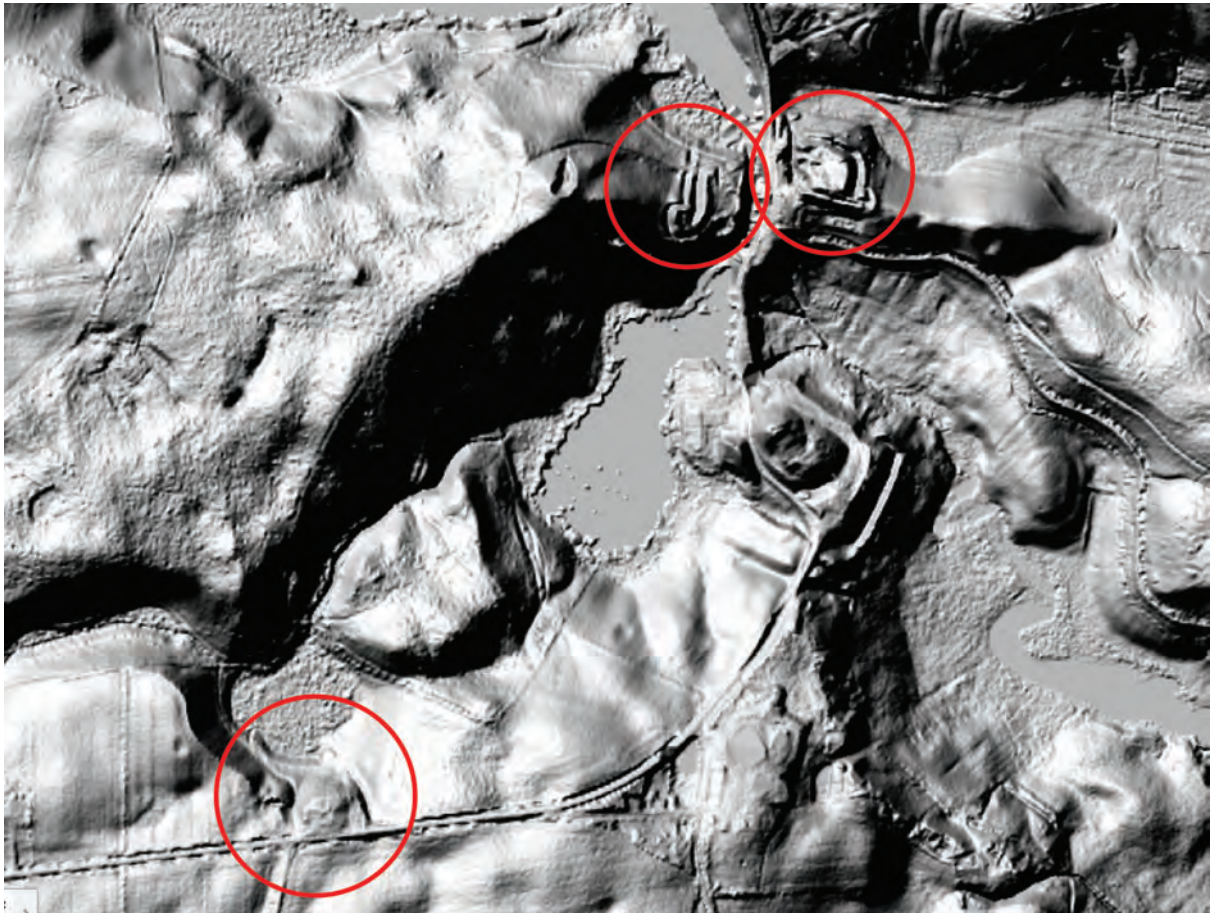
The ramparts are still there, they are just waiting for archaeologists to excavate them and to tell their stories.

A fortification for the defender or the attacker?

Whether these small embankments at Grimstrup are built by the defender of the castle or by the attacker to make a siege easier can be argued.

If they are built by the defender they could serve as an outpost or the first line of defense against an attacking enemy, but it is not wise to build defensive structures that can be used by the attacker, if they are conquered.

This is clearly seen in the way most towers in city/castles walls are constructed. Most of them are open towards the city/main castle so that, if conquered, they could not be used



by the enemy. Of course, some towers were also closed toward the city/main castle, but here they were planned as last line of defense to be used as small castles if parts of the wall were overtaken.

One would think that, as a defensively built castle, the embankments would be open towards the castle mound and there for would offer no cover for the attacker if conquered.

On the other hand, one might wonder if an attacking party would have the time to build small embankments from where they could seek defense and control the roads leading to a castle.

To my mind, there is no doubt that it was possible to do exactly that during a siege, especially if these earthworks are not bigger than the three embankments at Grimstrup.

The besieging party was the part with the best time on hand. So to build structures like

these were no problem and would have taken no more than days or maybe a week. With the two smaller embankments, the besiegers could really control and cut off the access to the castle.

Finally, the question remains: are these three embankments built by the defender or by the attacking party?

To my mind, there is no doubt that, they are part of the siege and, therefore, built by the attacker. The two smaller embankments seem to be placed in such a way that they cut off all traffic to the substantial castle mound at Grimstrup. From the larger embankment, located around 200 m from the castle mound, the enemy could survey the castle and direct attacks from the two smaller embankments east and west of the castle mound. Though, only through excavations on the embankments and on the castle mound, this could be confirmed.

Fig. 10. LiDAR map showing the Tørring castle in the Southern part of Jutland and its two possible siege ramparts (Geodatastyrelsen 2015).

CONCLUSION

Through this short presentation of the three castle sites, Refshale, Eriksvolde, and Grimstrup, I have attempted to argue for a method of locating the remains from battles in connection to castles through archaeology. I think it has been proven, that it is possible to locate different types of remains from these battles, even though it can be hard to prove the statements without excavations. One of these remains could be moats and ramparts built by the attacking party.

One might ask: "Do the besiegers have any use for small defensive structures?" and the answer seems very clear to me. Of course, they are needed, in more ways than one.

By besieging a castle, the attacker forces the besieged to try to break the siege or outlast it. If the besieged party tries to break the siege, defensive structures such as moats and ramparts will aid the besieging party to fight back the attack from within the castle. Finally, they serve as a way to close the roads leading to the besieged castle, and, thereby, keeping the castle from getting supplies.

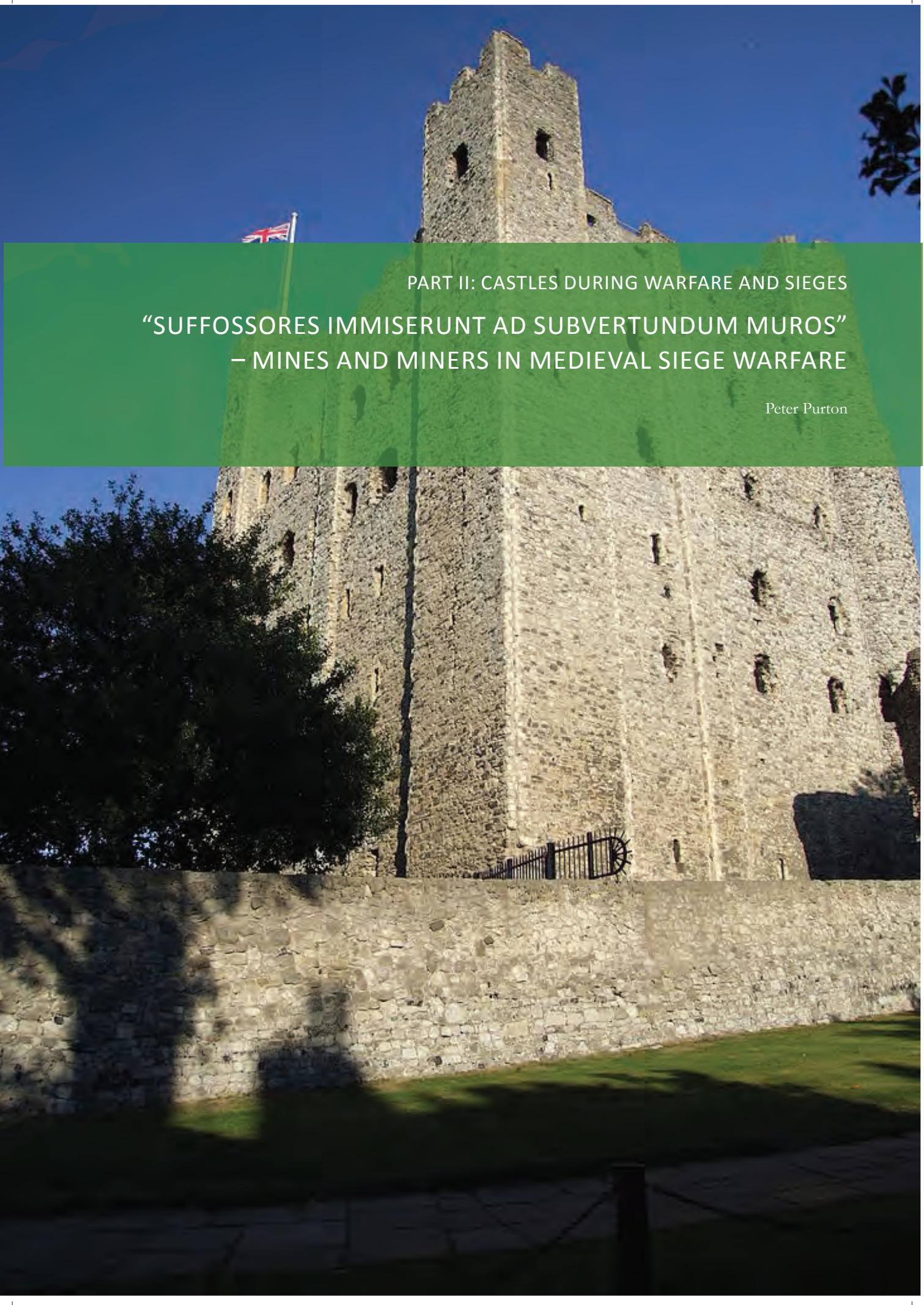
I hope that this paper can help others in pinpointing structures located outside the castle, that are meant as defensive structures not for the defenders of the castle, but as a defensive line for the attacker and as a way to control the roads leading to the castle.

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Leif Plith Lauritsen
Museum Lolland-Falster
Frisegade 40
4800 Nykøbing F
Denmark
lpl@museumlollandfalster.dk



PART II: CASTLES DURING WARFARE AND SIEGES

“SUFFOSSORES IMMISERUNT AD SUBVERTUNDUM MUROS”
– MINES AND MINERS IN MEDIEVAL SIEGE WARFARE

Peter Purton

“SUFFOSSORES IMMISERUNT AD SUBVERTUNDUM MUROS” – MINES AND MINERS IN MEDIEVAL SIEGE WARFARE

Peter Purton, Great Britain

ABSTRACT

Mining was an essential part of siege warfare in Antiquity. Although ancient writers continued to serve as exemplars throughout the early medieval period, it was not until the 11th century that its use became regular again in northern Europe. Unlike the Romans, medieval commanders had to call upon men who earned their living as miners. This paper examines the skills needed to succeed, and also how to defend against the mine, studying examples from England in the wars of the early 13th and early 15th centuries, and summarising the military role of Liégeois coal miners from the 14th. The basic techniques continued unchanged until the introduction of gunpowder mines from the late 15th century required modifications.

PREVIOUS HISTORY

Mining and counter-mining were used regularly by the armies of ancient imperial Rome and Persia. Historians Ammianus Marcellinus (4th century) and Zosimus (c. 500 AD) describe them frequently. In a detailed account of the siege of Maozamalcha by the emperor Julian in 363, they name the commanders of the mine, and confirm that the labouring work was done by legionnaires. Under cover of a diversionary attack on the surface, the miner-soldiers broke through the walls, leading to the capture of the fortress (Ammianus Marcellinus 1938, II, 436–443; Zosimus 1982, 20–22, 61–62).

Dating probably from the 4th century, Vegetius’ *Epitoma de re militari* remained in use right through the medieval period

as a standard educational tool for princes. Vegetius reminded his readers that the classical legionary army had engineers whose role involved responsibility for the miners, “who after the fashion of the Bessi” could sink underground tunnels either to get into enemy cities, or to excavate a chamber under the walls, prop it up with timber, fill it with brushwood or other inflammable tinder, then set it alight to burn down the props and bring down the wall above. He advised that it was necessary to start digging out of sight of the defenders, to reduce the chance of them discovering the mine and counter-mining. The Bessi were silver miners from Thrace. The miners are *cunicularii*, the Latin word derived from that for hares that dig tunnels underground (Vegetius 1993, 43–44, 128). The wording suggests that underground

*Previous page:
Rochester Castle
(Photo: Clem
Rutter, Wikipedia
2015).*



Fig. 1. Map showing locations of sites mentioned in the text (drawing: K. Atzbach).

mining in particular did require what would now be called professional or vocational skills.

The mine remained a standard weapon for Byzantine and Muslim rulers. Vegetian-style advice was repeated in both Greek and Arabic military handbooks of the medieval period. But it seems to have been less known in the emerging new kingdoms of central, western and northern Europe. Military mining had been a Roman skill, so its apparent absence in Frankish kingdoms is a puzzle, as there was considerable continuity between the empire and the successor states. Some scholars claim that the description of the capture by Clovis

of Angoulême in 508 in Gregory of Tours' chronicle (Gregory 1974, 154) indicates mining, but that is to read much into little, and subsequent examples are lacking. The first explicit reference is the chronicler Flodoard describing how the strongly-sited and newly built citadel (*arx*) of Laon was taken by King Louis in 938 "multisque machinis suffoso eversoque muro" (Flodoard, 1905, 70).

In England (Fig. 1) the first recorded example is in the 11th century. The citizens of Exeter (Devon) rebelled against William the Conqueror in 1067 and repaired their ancient Roman walls. William besieged Exeter

and the city surrendered after several days during which the King attempted “*murum suffodere*” (Orderic Vitalis 1969, 212–213). This detail is provided only by Orderic Vitalis, who was not contemporary. Nonetheless, by the time of the First Crusade, western European rulers were clearly familiar with the method, even if their attempts to use it at the siege of Nicaea (1097), eloquently recounted by Anna Comnena and all of the western chroniclers, failed in their objective.

MINERS

Orderic remarked that at Exeter, King William for the first time called upon his new English subjects to join his army. Perhaps these included the miners? There is nothing to confirm or deny such a possibility, but there were well established silver mines in the adjacent counties of Devon and Cornwall and a little further north there were the iron mines of the Forest of Dean.

There is little evidence of *underground* mining for most of the early medieval period. Every community wanted iron for its everyday

needs, every village needed its blacksmith, and every prince needed silver and gold, but mining during these centuries was largely confined to extracting ores lying on the surface. The Carolingians and the successor dynasties took a direct interest in mines. In Germany, the Ottonian kings took control of the silver mines of the Harz mountains, where the first surviving documentation dates from 968 and probably comes after the fact (Nef 1952, 430–489; Bartels 2010, 35–44). It has been shown that similar customary laws applied to mining in many different countries, permitting the right to explore and to dig to those known in England as “free miners”, in return for a regular payment. It is thought that ancient mining in south west England and in the Forest of Dean continued after the Roman period under the protection of Anglo-Saxon kings and that this interest was immediately taken over by William the Conqueror (Hart 2002, 15–17; Lewis 1965; Nicholls 1981, 8–18). The iron mines of the Forest of Dean unusually included deep mines. This fact, along with the direct royal control of this area exercised by the king’s constable from the local castle of St Briavels – which was also a base for the manufacture



Fig 2. Soldiers sapping a castle wall, 14th Century capital in the Castle Museum, Foix Castle (Ariège, photo: P. Purton).

of weapons – may explain why these miners in particular were frequently called upon to serve with the king's army, as shown by the evidence of the Pipe Rolls.

It is impossible to know whether the existence of men capable of excavating underground led to princes adapting this skill for military purposes, or whether this was a coincidence and there are other reasons for the fact that mining as part of siege warfare reappears in the records in northern and western Europe in the 11th century. Representations of the sapping of walls at surface level show this being carried out by men dressed as soldiers. A capital preserved in the castle museum at Foix (Ariège) shows soldiers sapping a castle during the 14th century (Fig. 2). Providing they were protected by mobile shelters from missiles from above, any fit soldier could use a pick to dislodge stones from a wall in front of him. Someone must have known when to insert props to prevent the whole wall falling on those below, but examples like this were common, and may reflect what happened at Laon in 938. To dig a tunnel *below* the ground, to bring it safely to the right place, and to excavate the space beneath the wall or tower (to be held up by timber the burning of which would successfully bring down the masonry above): all involved specific skills. Awareness of the local geology and of the properties of different rocks was also necessary: it would be essential to deciding on the method of excavation and whether timber props were required in the tunnel. Vegetius' deliberate comparison with silver miners may be instructive. He was talking about Roman armies having professional miners.

Studying medieval fortifications is easy compared with exploring medieval mines. How to date a hole in the ground that may have been worked since the Iron Age? The iron and ochre mine at Clearwell in the Forest of Dean has been in use that long and is now a museum. The tunnel in the illustration, though impossible to date, shows that as with all underground mining, considerable



experience must have been needed to acquire the skill to excavate safely (Fig. 3). Almost certainly medieval because it can be tied to known events (Braun 1936, 109–119) is an eight metre long tunnel dug under a corner of the donjon of the castle of Bungay in Suffolk (Fig. 4) probably at the orders of King Henry II after he had suppressed a rebellion in 1174, and had decided to demolish the castles of the rebel barons. The task was not completed – the rebel earl paid to preserve his donjon – but it must have required particular skills to execute. These examples were dug into hard stone and therefore did not require props.

Images survive of medieval miners and they show little change. A Forest of Dean miner is shown on a late medieval brass in

Fig. 3. One of the tunnels in the Clearwell mine museum, Gloucestershire (photo: P. Purton).

Fig. 4. The tunnel under a corner of the donjon of Bungay castle, Suffolk, England (photo: Ashley Dace, Creative Commons 2015).



Fig. 5. A Forest of Dean miner shown on a brass in Newland church, Gloucestershire, England (photo: P. Purton).



the local church of Newland (Fig. 5), and this is very similar to preserved early medieval images of the lead miners at Wirksworth in Derbyshire. The tools remained unchanged over many hundreds of years. Contemporary images of them, essentially picks and shovels, survive in the church of Abbenhall in the Forest of Dean.

MILITARY USE: SIEGES OF ROCHESTER AND BEDFORD

Evidence for the regular military use of Forest of Dean miners is found in government accounts – the Pipe Rolls – that survive from the reign of Henry II (1154–1189) onwards. Mines were used frequently in the wars between the Angevin kings and Philip Augustus of France (1180–1223), including at the celebrated siege of Château Gaillard (1203–1204). But the best recorded example dates from the civil war between King John of England and rebel barons who had forced the Magna Carta on a reluctant monarch in 1215. The peace immediately disintegrated, and John sought to restore

his authority, recruiting professional soldiers from Poitou, Brittany, Flanders, Brabant and elsewhere. The king's troops assembled in south east England and John proceeded to besiege Rochester Castle, which stands on the river Medway, across the route from Kent to London, which was occupied by the rebels. The castle comprised a large donjon, built from 1127, inside a stone curtain, the whole built on top of an earlier motte castle which itself stood across part of the old Roman wall of the city. At more than thirty metres, the donjon was the tallest in England (Fig. 6). The garrison was large, around 100 knights, plus an unknown number of crossbowmen.

The course of events is established through several chronicles and a number of government records (Coggeshall 1875, 175; Roger of Wendover 1996, 338; Walter of Coventry 1873, II, 227; Paris 1866, II, 165). The attack began on October 11, 1215, the king's men having occupied the adjacent town. It is thought that they occupied the higher ground about 100 metres to the south and placed five stone throwers there which, together with relays of archers and crossbowmen, maintained a continuous bombardment – *non cessantibus per diem vel noctem* (Barnwell Chronicle) – of the southern defences, comprising a curtain wall, with the donjon just behind. The defenders responded vigorously and caused many casualties. One account suggests that the stone throwers created a breach in the curtain, but the rest say the king had to use miners to undermine it. Given what we know of the limited capabilities of artillery against stone walls before the later arrival of the counterweight trebuchet, this version is much more likely. On October 14, John had sent orders to Canterbury to be sent as many picks as could be gathered or made as quickly as possible, and more were ordered on November 6. The mine succeeded in creating a breach, royal troops stormed into the bailey, but the defenders retreated safely into the donjon. The miners were put straight back to work against the southern corner turret. It fell



and brought down much of the walls of the donjon on either side of the turret. Famously, the king had ordered the despatch of forty of the fattest pigs that could be found, whose fat was used as an accelerant for the burning of the timber props of the excavation. This order was dated November 25 (Hardy 1833, I, 231, 235, 238). The donjon has a powerful spine wall and the defenders managed to hold out behind it. The castle well could be accessed from this, the northern side, of the wall. But they had no food and surrendered on November 30. Though prudent advice saved the noble prisoners from hanging, this had been one of the most dramatic sieges in English history and thereafter, one chronicler remarked rhetorically, few placed their faith in castles (although actually castle warfare continued to dominate the war that followed).

Fig. 6. Rochester Castle, Kent, England, from the south-west. Observe the new corner bastion and, on the side of the donjon, evidence for rebuilding after the mine (photo: P. Purton).

Fig. 7. Rochester castle, Kent, England, from the south east. The first mine may have been dug to the right of the (rebuilt) curtain tower. The area of rebuilding is visible on the side of the donjon (photo: P. Purton).



Fig. 8. Rochester castle, Kent, England, interior of donjon, SW wall, showing where rebuilt after the siege of 1215 (photo: P. Purton).



The impact of the mines is evident from the rebuilding that took place from around 1225, once peace had been restored. The corner of the curtain was provided with the formidable tower that now stands, originally three stories high and provided with numerous arrow slits. The curtain wall was reconstructed, covering up the place where the mine was dug. Therefore the location of the first mine is unknown: one theory has it taking place north of one of the curtain towers, based on traces of an older filled-in trench identified below the later ground level (Fig. 6) (Flight and Harrison 1978, 60). The mine under the curtain must have been dug from or under the ditch and on balance, I believe this was likely to have been underground. The new bastion on the south west may have been a response to the weakness of this corner against more powerful siege technology rather than a rebuilding due to the mine (see below).

As for the donjon, in the right light one can see how much was rebuilt in the stonework (Figs. 6, 7), and, inside, (Fig. 8) in the blocking of the original arches. The new turret, rounded rather than square, may have been built with far fewer openings than the one that collapsed,

if it originally looked like its opposite number still standing on the opposite side.

After a thorough examination of the building, Derek Renn (Renn 2004, 343–364; Ashbee 2012 agrees) has argued that the mine under the donjon did not go underground – the foundations are deep, and the plinth seems today to be continuous – but instead cut away the lowest levels above ground, presumably held up by inserting props. If so, it must have been a horribly dangerous operation, carried out in a confined space – it is less than five metres from the donjon to the curtain at this point.

Another possibility is that the first mine was begun from the south-west towards or close to the corner bastion, but hit the Roman wall lying underneath, and so was moved to start again from the south eastern side. This is proposed on the (unreferenced) display board outside the castle today. However, the timeline given by the dating known from the documentary records suggest this is less likely. Mining professionals propose an average rate of progress of not more than one or one and a half metres per day for digging a mine tunnel, so if that applied at Rochester, there was very little time to complete the excavation even if the famous order for pigs was issued right at the end of the digging and the unfortunate animals arrived quickly and were turned immediately into fat, or even that the order was issued after the first breakthrough in preparation for the attack on the donjon.

Although the king's soldiers had been recruited from abroad, the limited surviving royal accounts of these years show that Masters Ernulf and William Lamb had brought eleven miners from the Forest of Dean who were paid for 150 days' service at 4s 9d per day charged to the revenues from two south western counties (Pipe Roll Society 1961, 19). There is no reference here to payment for the necessary accompanying labouring, which may have been provided by the soldiers.

It is evident that mining had succeeded where other forms of attack had failed,

and that the king's miners earning 3d a day enabled John to change the course of the rebellion. His enemies subsequently offered the crown of England to Louis of France, leading to more years of war including the famous siege of Dover in 1216. The regents for John's nine year old son Henry III (1216–1272) had to fight hard to secure his crown.

Nine years later, mining played the decisive part in another but related conflict. In 1224, while the young Henry III was assembling his barons for an expedition to recover his lands in Poitou, one of his father's former foreign soldiers, Fawkes de Bréauté, whose service had been rewarded with English lands, rebelled, but prudently took flight while his brother William fortified his castle at Bedford against the king, expecting to hold out while Fawkes raised troops to relieve him. This proved to be a fatal mistake. The king turned the army he was raising for Poitou against Bedford. Many chronicle accounts are supplemented by royal records demonstrating a formidable assembling of siege equipment. The siege lasted eight weeks, and 200 of those working the artillery were killed or wounded by the defenders. The outer wall was breached by stone throwers. The inner wall, described as very strong and reinforced with timbers, was then mined, the supporting timbers set alight, and the wall fell enabling the royal troops to storm the inner bailey, though with heavy casualties. The same treatment was then applied to the "old tower" on top of the motte, *et fissa est turris*. The eighty defenders surrendered and were hanged (Dunstable Annals 1866, 88–89; Coggeshall 1875, 206–207; Amt 2002, 101–127; Fowler 1920, 117–132; Goddard 1985; Greenshields 1954, 183–190; Petre 2012, 9–12, 37–51). Of the castle little remains today except the motte, although recent archaeology has uncovered foundations of some of the great buildings formerly occupying the two baileys. The accounts lead to the conclusion that the mines were dug first against the inner bailey wall, and then

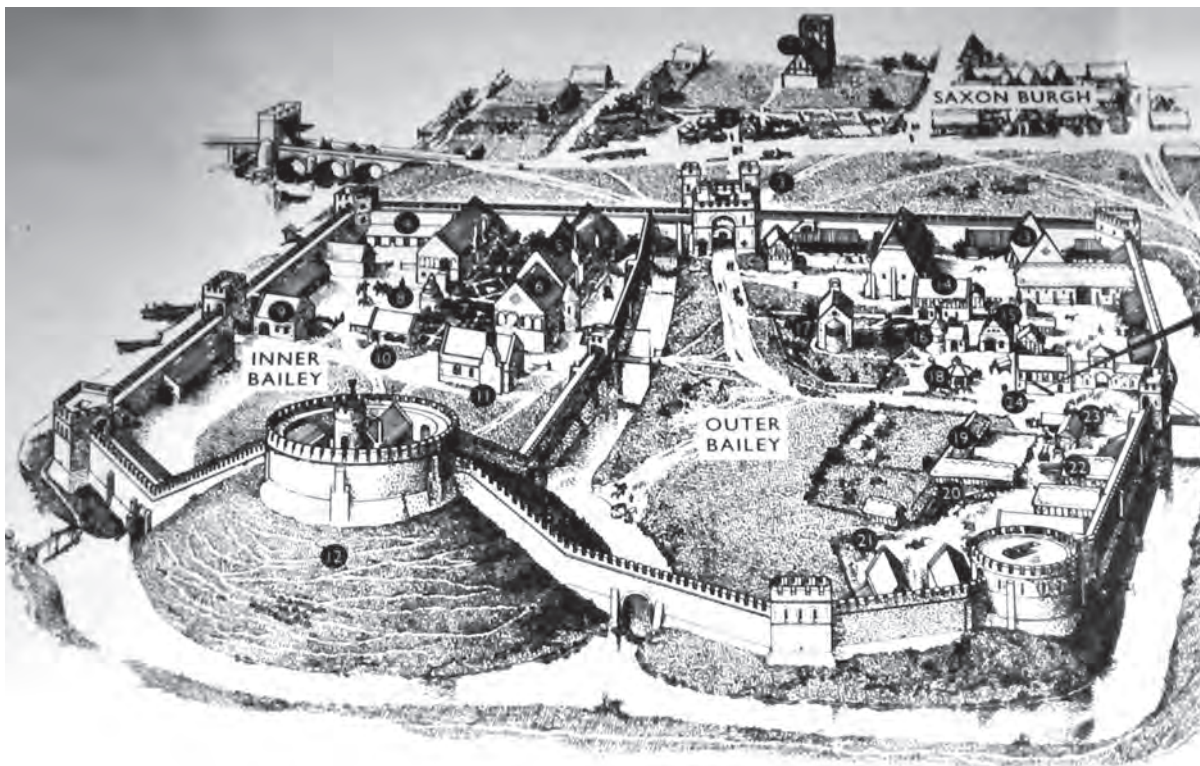


Fig. 9. Bedford Castle, Bedfordshire, England. A reconstruction of the castle as it was thought to have been in 1224 (photo: P. Purton, after Bedford Borough Council).

against the tower on the motte. It seems to have been a formidable stone fortress in 1224 (Fig. 9). Miners were critical to the successful storming of the castle, although modern excavations were not in areas where they dug so it has not been possible to confirm the chronicle accounts through archaeology. The Pipe Roll records payments of one mark to Arnulf, and to William son of Lambert, ten shillings to Roger and Ade Bruno, “king’s miners”, John de Standon, a miner, 5d a day and three colleagues at 4d per day for 35 days. Six years later, there is a further payment to Ernulf the miner of 40s 10d, perhaps a pension, or maybe arrears after many years of loyal and extremely dangerous service if this is the same Ernulf we met at Rochester (Pipe Roll Society 2005, 91; and 1927, 97).

Miners were frequently summoned during the years that followed to serve English kings in their wars both in Britain and overseas, just as there is also evidence for this in the armies of St Louis in France. The siege in 1287 of the Welsh prince Rhys ap Mareddud’s stone

castle of Dryslwyn (which stands on a steep and rocky hill top in the Tywi valley in south-west Wales) is well-documented. He was in revolt against English rule in Wales and a formidable Anglo-Welsh army eventually captured the castle, but a mine driven under the outer or middle curtain collapsed, killing perhaps 12 miners and also several named knights who had come to inspect it (Caple 2007, 188–189, 197). This was a rare setback, and records show service by miners from the Forest of Dean regularly through the 13th and 14th centuries.

USE OF THE MINE UNDER HENRY V

When after a long truce in the Hundred Years’ War, Henry V of England resumed fighting in 1415, his army landed at the mouth of the river Seine and undertook a siege of the port of Harfleur, made famous to English speakers by Shakespeare’s play. There are many accounts. The town was well protected

and had water defences on three sides. Although the attack was chiefly conducted by a massive artillery bombardment and by the driving forward of trenches towards the ditch on the side commanded by the king himself, an attempt to mine was made by his brother the Duke of Clarence. Two mines were attempted under the deep ditch on this side, but the defenders were able to watch the start of the digging and knew how to countermine. They did so with success, meeting the English miners underground and, amid fierce fighting, driving them back. The town surrendered as a result of the attack launched from the other side. So here we have an example of a successful defence against mining by countermining. What is also of interest is that contemporary commentators were aware of the reason for the failure. The anonymous *Gesta Henrici Quinti* stated that the problem was that the mines were begun in sight of the enemy, *contra doctrinam magistri Egidii* (*Gesta Henrici*, 40–1). The writer is referring to the thirteenth century textbook, *De regimine Principum* of Giles of Rome, of which an English translation was made in 1408, which reproduced the advice given by Vegetius about starting to dig from where the enemy could not see you. Vegetius was also reproduced in the well-read guidance to warfare offered by Christine de Pisan, updated to recognise gunpowder weapons, but giving the same traditional advice about mines and countermines, and even listing the tools – picks, iron levers, spades, baskets and shovels – needed to countermine (Christine de Pisan, 136). This work was written at the French royal court also around 1408 and perhaps was known to the defenders of Harfleur, although any noble commander should anyway have been educated on Vegetius.

In truth, Clarence had no choice: the lie of the land forced him to dig from where he did (*Gesta Henrici* 1975, 40–41; Elmham 1858, 111; Ps-Elmham 1727, 44–45, 363; Saint-Denys 1839, V, 531–543; Monstrelet 1867, III, 83–84; Le Fèvre 1876, I, 225; Christine de Pisan 1999, 144–145; Giles of Rome 1997.)

but there is also a curious comment in one of the chronicles that “because of the long truces and abstinence from war, the ways of fighting underground had become strange to the English” (Ps-Elmham 1727, 45). It is true that by 1415, more than a generation had passed since the last need for the English to undertake a siege, but the problems at Harfleur were not the result of the inexperience of the miners, and the Scots were using miners in a failed attack on Roxburgh castle in 1417 – the words from that contemporary account form the title to this paper (Walsingham 1876, 482). Nonetheless, there may be some confirmation of the suggestion in that for his next expedition to Normandy, in that same year 1417, Henry V is recorded as hiring teams of miners not from England, but from Liège. On July 15, the King’s treasurer was ordered to pay £112. 15s to Peter Lowart for his wages and those of 16 miners, and a separate payment of £20 for the wages of “divers miners from Liège” for his voyage to France (Devon 1837, 351–352).

Miners were in fact very little used in Henry’s rapid conquest of Normandy that year, but his choice confirms that the bishopric of Liège was by now reputed for its miners in the same way as the Forest of Dean had been for some centuries. The first recognition of a formal community of coal miners in the bishopric dates from 1228, and they acquired similar rights to those of miners elsewhere (Kranz 2000, 13–14, 361–363). Their reputation as experts in a military role must have been growing during the fourteenth century, as there are local chronicle references to Liègeois miners being involved in sieges of fortresses at Fauquemont in 1329, where the defenders countermined, Argenteau in 1346 and Gasebeck in 1388, where the miners, in the employment either of the city or the bishop of Liège, successfully brought down stretches of the walls (Dynter 1854, II, 783–785; III, 623–624; Hocsem 1927, 358–359; Outremeuse 1931, II, 190).

Fig. 10.
St Andrews castle,
Fife, Scotland.
Cut-away drawing
of the mine and
countermine
of 1546
(photo: P. Purton,
after St. Andrews
Castle).



COUNTERMINES

It is rare to find surviving evidence of medieval military mining – although some fascinating tunnels relating to sieges of castles in the Vosges mountains and dating from the late 13th and 14th centuries have been studied, including references to the miners recruited to work them (Schoen 1996; Biller 1985). To find examples of countermines such as those at Harfleur is yet more unusual. The one example surviving from Britain is from very much later. In Scotland, the castle of St Andrews was besieged during a civil war in the years 1546–1547. The mine dug by the men of the regent, the Earl of Arran, is large and spacious, but was intercepted after several attempts by the defenders who had trouble finding it, but once they did, it was abandoned. It was reopened in the nineteenth century and is now open to the public (Fig. 10) (Fawcett 1992, 10–11). It may be that this mine was intended to open inside the walls and allow entry that way, as had been done by Roman and Persian miners, rather

than bring down the walls to create a breach. Mines built to use gunpowder for blowing up the wall had been tried occasionally since the fifteenth century although they did not become common until the sixteenth: a vital technical adjustment was to have a zig-zag tunnel to prevent the explosive blowing back rather than up. These are well illustrated in Francesco di Giorgio Martini's *Trattati* (1475) (Bury 1982, 23–30; Pepper 1982, 31–38). If the St Andrews mine was intended for gunpowder, it was ignoring established good practice and would have been extremely dangerous to those constructing it.

The siege of St. Andrews really belongs to a new era. So does the other well-known example of mines uncovered in the British Isles in modern times, at Limerick castle in western Ireland, where mines dating from the siege of 1642 have been excavated and are now also open to visit (Wiggins 2000). Mining of a wall or tower remained an effective weapon of siege warfare throughout the medieval period, the techniques and skills involved in mining, and in the defence against

it, remained unchanged for hundreds of years, but that one critical element deciding whether or not a mine could be attempted was the presence or availability of those ordinary men who normally made their living by digging the ground for minerals necessary for the whole community. Right up to the modern era – recruits from mining backgrounds were likely to be assigned to engineering and sapper companies in both world wars – these men have served their rulers with their skills.

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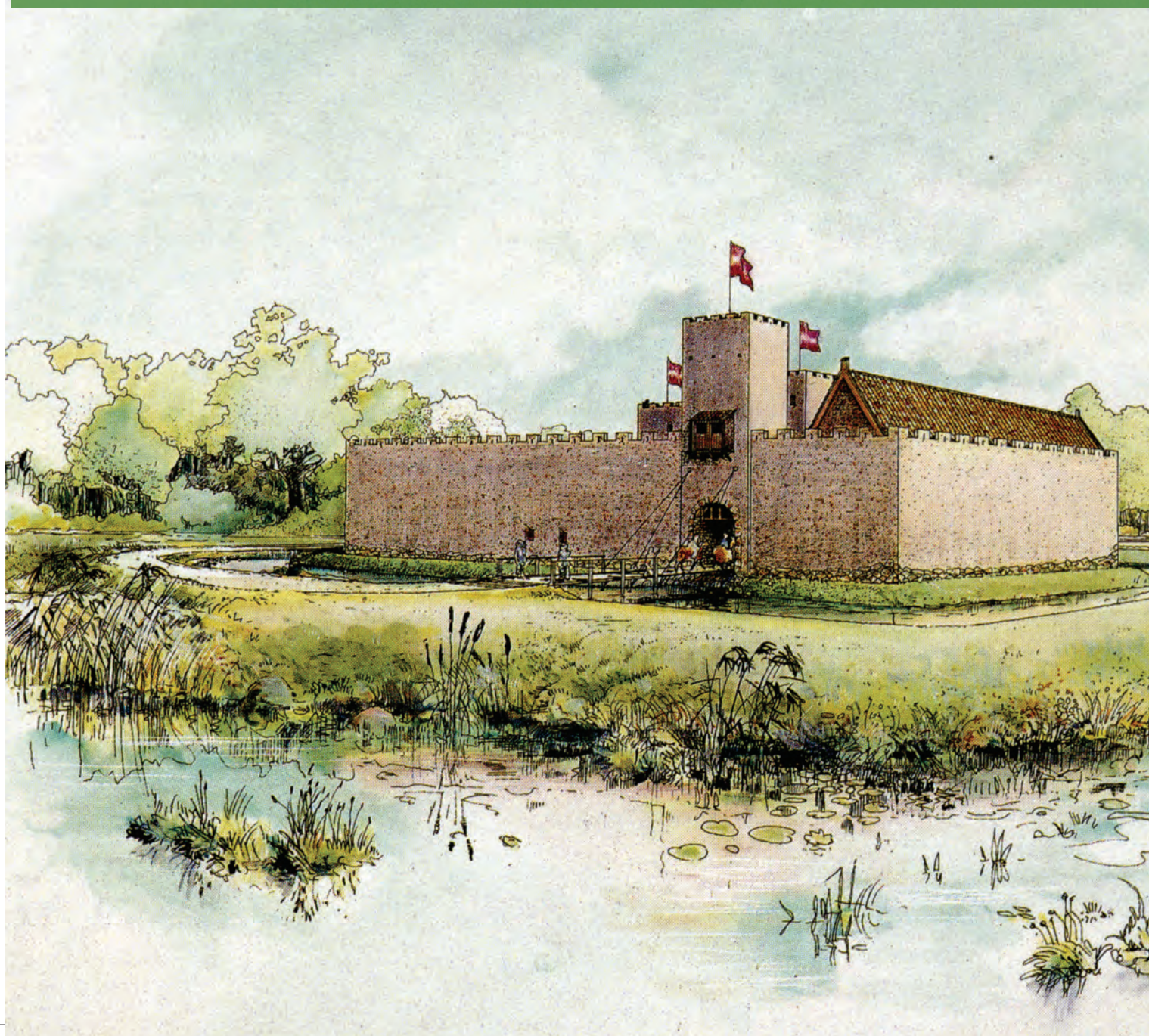
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Peter Purton
 90 Balfour Road
 Southall
 Middlesex UB2 5BS
 United Kingdom
 ppurton@tiscali.co.uk

PART II: CASTLES DURING WARFARE AND SIEGES

THE SIEGE AND STORM OF LINDHOLMEN DURING THE
SECOND HANSEATIC WAR (1368–1369)

Anders Reisnert



THE SIEGE AND STORM OF LINDHOLMEN DURING THE SECOND HANSEATIC WAR (1368–1369)

Anders Reisnert, Sweden

ABSTRACT

In 1369, a dramatic battle took place in Scania: The members of the Hanseatic League had declared war upon Denmark in 1368 and, after a well planned campaign, most of the Danish controlled castles fell in Hanseatic hands. The important Scanian market places were all under Hanseatic control. Only one castle in Scania, Lindholmen, had withstood the Hanseatic onslaught and was under siege, when the high commander of the Hanseatic troops, Lübeck's mayor Bruno Warendorp, arrived at the scene in the middle of August 1369. A few days later, the mayor's corpse arrived under mark of honour to Lübeck and the military campaign in Scania was brought to an end. What had happen?

INTRODUCTION

This article builds on two types of sources: historical sources and archaeological findings.

The written sources about the Second Hanseatic War were assembled early on and have been presented by Schäfer, Reinhardt, Tägil and Skansjö. In this article, it is chiefly these sources that are used, but certain details have also been checked in available printed sources.

The other type of evidence is the archaeological source material unearthed by a series of excavations from the 1930s to the 1990s. The major part of this material is summed up in a number of essays and especially in the book *Lindholmen: Medeltida riksborg i Skåne* (Mogrens and Wienberg 1995).

Recording source criticism, it must be admitted, a great deal could be said about the interpretations of the archaeological material put forward here. The older excavations from the 1930s, for example, often lack exact data about finds in the reporting, which means that there are weaknesses in later distribution maps. Moreover, I must confess, the interpretation of the archaeological material has been forced somewhat in order to achieve the final result. Other interpretations are thus possible. In addition, the castle of Lindholmen has not yet seen a total investigation, and if or when the entire site was excavated, the picture of the distribution of weapon finds might show completely different concentrations from those suggested here, and thus might give rise to other interpretations.

*Previous page:
Lindholmen Castle,
Reconstruction by
P. Wallins (drawing:
T. Olsen; Mogrens
and Wienberg
1995, 271).*

As for the death of the Hanseatic commander Bruno Warendorp, also mayor of Lübeck, we lack precise written sources, which means that the account below is mostly speculative. One source mentions that he lost his life in the struggle for Scania, but the exact circumstances remain unclear (Mantels 1871, 127). Warendorp may of course have died for some reason other than enemy weapons, for example, by having fallen from his horse, suffering a heart attack, or succumbing to one of the diseases that were common at the time. But his body appears to have been brought in state to Lübeck, and the sepulchral monument in St Mary's Church in that city was magnificent, adorned with his coat of arms and his battle helmet (Mantels 1871, 133). This strongly suggests that Bruno Warendorp was killed in action rather than dying of some more trivial cause.

THE BACKGROUND

After long years of division in Denmark, Valdemar IV, called Atterdag (Fig. 1), ascended to the throne in 1340. At first he worked energetically to reunite the kingdom, using both force of arms and negotiation during the subsequent decades to regain the castles that had been pawned to Danish and German lords (Olsen 2014, 142ff.). Parallel to his military successes, King Valdemar engaged in diplomacy in Europe on a broad scale, with the aim of securing his rule over Denmark (Tägil 1962).

After the consolidation of the kingdom with the conquest of Scania in 1359, Denmark began a policy of aggressive expansion in the Baltic region, and the island of Öland was attacked and captured by Danish troops in 1360. In 1361 the fleet continued towards Gotland, and in the high summer of the same year a battle was fought at Korsbetningen, just outside the walls of the Hanseatic town of Visby (Westerholm 2007, 148ff and works cited there). The



political leadership of the Hanseatic towns now understood that their economic position in the Baltic region was seriously threatened by the Danish expansionist policy.

Fig. 1. Valdemar Atterdag. Wall painting in St. Peter's Church, Næstved (photo: unknown, Wikipedia 2015).

THE FIRST HANSEATIC WAR

An alliance was forged between the Wendish Hanseatic towns, King Magnus of Sweden, and the princely house of Holstein in 1361, to counter the Danish military threat. In 1362, a fleet with 3000 men on board sailed from Lübeck under the command of the mayor of Lübeck, Johan Wittenborg, and Swedish troops led by King Magnus were to invade Scania to support the naval operation.

The first attack of the Lübeck fleet was aimed at the strong fortress of Helsingborg – the lock on the Sound (Tägil 1962, 232f and works cited there). The castle (Fig. 2) was defended by the Zealand nobleman and member of the Danish king's council, Peder Nielsen Jernskjæg (DAA 1899, 184ff; Bruun 1937, 569f; Lerdam 1996, 34). We shall meet this man again in 1368–69, but

Fig. 2. Helsingborg, the town and the castle. From *"Civitates orbis terrarum"* by Georg Braun and Franz Hogenberg, 1588 (Malmö Museers collection).



then as commander leading the defence of Lindholmen.

The Swedish troops failed to arrive, however, and Johan Wittenborg was forced to use the major part of his troops in the siege of the castle. One of the units recruited by the Hansa was led by Bruno Warendorp, then a young captain (Mantels 1871, 130). When the siege of Helsingborg drew out, King Valdemar was able to assemble a fleet in Vordingborg. This force sailed off in secret and surprised the weakly manned Hanseatic cogs on the roadstead off Helsingborg. Twelve cogs along with important prisoners were seized by Valdemar. Johan Wittenborg was forced to negotiate and his army had to take the land route down to the Skanör peninsula, where the heavily reduced troops were able to embark.

The Hansa suffered a total military disaster, leaving Valdemar stronger than ever. Johan Wittenborg was stripped of his offices, arrested, and condemned to death for his military failure. The execution took place in late August or early September 1363, when he was beheaded in the square in Lübeck (Mantels 1871, 120–121; Schäfer 1879, 275ff.; Reinhardt 1880, 304ff.; Tägil 1962, 232ff.).

On 22 November 1365, peace was concluded between the Hansa and Denmark (DD/DRB 3 rk., bd. 7, no. 328).

THE CONFEDERATION OF COLOGNE

In November 1367, a Hanseatic diet was held in Cologne (DD/DRB 3. rk., bd. 8, no. 92; Daenell 1894). No fewer than 77 of the attending towns decided to form a confederation to attack Denmark. Each of the armed cogs provided by the confederate towns was to carry a hundred well-armed men, twenty of them well trained and equipped crossbowmen. The confederation was strengthened by powerful allies. Count Adolf of Holstein, Duke Albert (Albrecht) of Mecklenburg, and King Albert (Albrekt) of Sweden (Fig. 3) pledged to take part in the attack on Denmark. The war was well planned through intensive diplomacy and was opened on several fronts simultaneously (Schäfer 1879, 437–446; Reinhardt 1880, 291–414; Tägil 1962, 297–302).

This meant that the Danes could not destroy the enemy forces, as they had done



Fig. 3. Albert of Mecklenburg, king of Sweden together with his father, Duke Albert of Mecklenburg-Schwerin (Meklenburgische Reimchronik 1378 AD).

at Helsingborg in 1362, through a swift counterattack. The castles in Denmark that were under Valdemar Atterdag's control were instead outfitted and manned with strong garrisons. However, if the Danish military tactics can be regarded as defensive, the diplomatic effort was all the more vigorous. King Valdemar left Denmark a few weeks before the outbreak of war, intending to form a confederation to attack the Hansa towns in the rear, and also to oppose Holstein and Mecklenburg (Tägil 1962, 282ff.).

THE SECOND HANSEATIC WAR

Unlike the first Hanseatic War, when the fighting was concentrated around Helsingborg, the second one took place in several theatres of war (Fig. 4). The tactics of the confederation seem to have been to prevent Danish troops from assembling and to force the enemy into local defence. This meant that the Danish military units had no chance to assemble forces for a major counterattack. The commander-in-chief of the Cologne Confederation was probably the mayor of Lübeck, Bruno Warendorp (Schäfer

Fig. 4. Map illustrating the military campaigns during the second Hanseatic war.
A: Attack direction of the Swedish troops under command of the Swedish king Albert of Mecklenburg.
B: Attack direction of the Dutch Hanseatic fleet.
C: Attack direction of the troops from Holstein under the command of Count Claus of Holstein and his brother Herman.
D: Attack direction of the main fleet from Lübeck under the command of Lübeck's mayor Bruno Warendorp.
E: Attack direction of the fleet commanded by Duke Albert of Mecklenburg.
 (drawing: C. Ödman).



1879, 466) and the tactics were presumably his own idea.

The war began in Scania when the Swedish monarch, Albert of Mecklenburg, led his troops in an attack on the province in the early spring of 1368. The towns of Falsterbo, Skanör, Ystad, Simrishamn, and Lund soon fell. The castle in Falsterbo withstood until 17 June, after which Elbogen (Malmö) and Värpinge fell. An attempt was also made to take Helsingborg by surprise, but it failed (Schäfer 1879, 476ff.; Reinhardt 1880, 430ff.).

On 11 April, the Dutch Hansa, chiefly with legionaries from Deventer and Harderwijk, attacked towns in Norway and Bohuslän. The towns of Marstrand, Kungälv, and Lödöse were captured and plundered, along with Bergen (Schäfer 1879, 480–481), whereby one of Valdemar's strongest allies, his son-in-law King Haakon, was eliminated.

Count Claus of Holstein invaded Jutland, capturing Ribe and Viborg. Claus brother,

Hermann, seized Lolland at the same time (Schäfer 1879, 481–482).

With 37 ships and 2000 armed men on board, the main fleet weighed anchor from Lübeck on 4 April 1368, with Copenhagen as its first target. Also on board were 400 horses, eight trebuchets, four other catapults, and battering rams (Schäfer 1879, 466–468. For more cautious estimates of the strength of the Hanseatic troops see Tägil 1962, 316). Copenhagen was soon captured, and on 2 May, after two months' siege, the castle fell. Several towns and castles in Zealand were besieged and some were taken through negotiations by the troops of the Cologne Confederation.

Duke Albert of Mecklenburg left the harbour in Warnemünde on 27 April with a squadron of ten cogs and probably a number of smaller ships. On the ships there were 300 knights and an unknown number of foot soldiers. The targets were Zealand

and Lolland, with the aim of supporting the Holstein attack (Schäfer 1879, 481–482; Reinhardt 1880, 425).

Hostilities continued in Scania, where Swedish allies sided with Hanseatic troops together with local Danish magnates. The important Scanian Market was secured for the Cologne Confederation, while simultaneously a bridgehead had been established, through the capture of Copenhagen, on the Zealand side of the Sound.

Through these successes the Hansa was able to start the siege of the well-defended Helsingborg in summer 1368. Helsingborg was one of the strongest castles in Denmark, and despite the large forces, the siege dragged on and the besiegers were forced to winter outside the walls of the castle. It was not until 21 July, after a year's siege, that the Helsingborg garrison capitulated on favourable terms. In the following months the commanders of the castle, Vicko Moltke and Hartwig Kale, received large sums of money from Lübeck and other Hanseatic towns (Reinhardt 1880, 442). The capture of Helsingborg was a personal triumph for Bruno Warendorp. He had gained revenge for Lübeck's humiliating defeat in 1362 and opened Denmark's lock on the Sound.

Everything seemed to be going well for the military forces of the Cologne Confederation. The combination of diplomacy, which ensured powerful allies, and military strength with superior tactics, had divided the Danish defence resources, finally forcing King Valdemar and Denmark to submit.

However, one castle, remained to be captured before the victory over Denmark was complete. In the hinterland of the important Scanian Market in the Skanör peninsula was the stout fortress of Lindholmen. If long-term Hanseatic supremacy over the market area was to be secured, this castle had to be taken as well.

THE MARCH ON LINDHOLMEN

On 14 August a troop of 1100 men, who were now free after the protracted but successful siege of Helsingborg, arrived in Höllviken (Schäfer 1879, 502) under the command of Bruno Warendorp. He was received in triumph by the Hanseatics taking part in the Scanian Market (Fig. 5) there. The very next day, the troops marched on towards Lindholmen to reinforce King Albert's army, which had been besieging the castle more or less effectively since the spring of 1368 (Skansjö 1995, 78–79). A report by Bernhard Hoeppner to the Council in Riga, dated 18 August, tells that preparations had been made to receive the troops in Falsterbo (DD/DRB 3. rk., bd. 8, no. 340), which must have made it easier for the quick march on Lindholmen to begin on 15 August.

It ought to have been possible to complete the march to Lindholmen in one and half days, since the distance between Skanör-Falsterbo and Lindholmen is about 20 km. Once they reached the castle, they would have found Albert of Mecklenburg no doubt waiting impatiently for the arrival of the reinforcements. Preparations for the attack had probably been made by constructing scaling ladders, making or procuring crossbow bolts, laying up stores and preparing camps.

Fig. 5. Map of Scania showing the location of the castle Lindbolmen (drawing: C. Ödman).



Attempts were probably made to fill in the moats around Lindholmen, a dangerous undertaking which, if it was attempted, would have had to be done under cover of darkness. A letter from 1369, which should probably be dated July and not September as in DD/DRB (DD/DRB 3. rk., bd., 8 no. 351), tells how Herman von Owe negotiated with the Hanseatic bailiffs at the market in Skanör and Falsterbo. We learn that King Albert and his besieging troops had run into problems at Lindholmen. More soldiers and supplies were needed, and the king did not know who was friend or foe. A reasonable interpretation of this is that Albert had encountered difficulties and that his camp was subject to attack from soldiers loyal to Valdemar Atterdag. It is possible that the defenders had managed to bring reinforcements into the beleaguered castle.

LINDHOLMEN

What did Lindholmen, or Lindholm as the castle was called then, look like at the time of the siege in 1368–69? Lindholmen is a few kilometres east of modern Svedala. On an islet in a shallow bay of the lake Börringesjön, a relatively large fortress was built during the reign of Erik Menved, probably in the first decade of the 14th century (Skansjö 1995, 74). When fully built, the fortress was a square curtain-walled castle with sides measuring 60 by 50 m. The curtain wall was 3.4 m wide, built of brick, partly with cavity walls, partly with solid walls. A stout tower was erected in the north-east corner of the castle to secure the castle's well on the ground floor. From here it was possible to shoot at the only road leading out to the castle. Access to the castle was via a solid gate tower with 10-metre sides and walls between 2.5 and 3.0 m thick, with a gateway 3 m wide running through it. The drawbridge was of the counterweighted type, just over 3.5 m long. The gate tower was built in several stages but was probably completed

by 1368. The castle wall was surrounded by a moat 15 m wide and at least 2 m deep. A rampart about 10 m wide separated the inner moat from the natural lake.

Centrally placed in the structure was a donjon with a square plan measuring 10 m on each side. The thickness of the walls here was just over 2 m, and the tower may have been as much as 18 m high. The south side of the castle was occupied by a long hall measuring about 45 m, the interior width of which must have been over 7 m (for a more detailed description of the castle see Mogren and Wienberg et al. 1995). On the ground floor of this building, there were at least three rooms. Rebates in the outer side of the wall show that a larger external stairway was planned (Gardelin 1995, 158–159) and probably also built. The stairs led to the upper story of the hall building.

The height of the curtain wall, according to a source from the 18th century, may have been 18 m (Linné 1749, 244), but a height of 12 to 14 m is more likely (Carelli 1995, 103; Etting 2010, 118). The height stated by Linnaeus may instead apply to parts of the donjon, which stood as a ruin until the 18th century.

We do not know how big the garrison at Lindholmen was at the time of the siege, but it was evidently sufficiently large for a solid defence of the castle. The commander was the previously mentioned knight Peder Nilsen of the noble Jutland family of Jernskjæg (DD/DRB 3. rk., bd., 8 no. 449).

STORMING LINDHOLMEN

When Bruno Warendorp reached Lindholmen, he must surely have felt self-confident. In the military campaign that had been pursued for almost two years, the enemy castles had either fallen or had capitulated in the face of the superior power of the Cologne Confederation. His military campaign had thus been very successful up to now.

We may assume that Bruno Warendorp, immediately on arrival in the camp outside Lindholmen, had acquainted himself with the tactical situation. He must have found that the siege had so far been managed well and that it could be brought to a successful conclusion quickly. Small-scale attacks to sound out the strength of the enemy were probably mounted before the main attack started on 21 August.

At the walls of Lindholmen, however, success failed to come, and Bruno Warendorp was killed during the attack (Mantels 1871, 132; Tägil 1962, 329; Skansjö 1983, 125). It may be noted here that the plaque on Bruno Warendorp's grave in Saint Mary's Church in Lübeck (Fig. 6) states that he fell at Helsingborg. As Mantels showed long ago, this is impossible because Helsingborg had already fallen on 21 July. Elsewhere Bruno is simply stated to have fallen in Scania as leader of "our town's forces in the war against the King of the Danes" (Mantels 1871, 127).

The Hanseatic soldiers ended the siege after the failed attack and withdrew from Lindholmen, as did King Albert of Mecklenburg and his men. In the following decades Lindholmen (Fig. 7) was one of the most important points of support in Scania for the Danish kingdom (Skansjö 1981, 125).

This much is what we know about the course of events from written sources. But what actually happened? What led a hitherto successful military commander, who after two years of combat must have been something of a veteran, to misjudge the strength of the target so badly that he died in the attack on it?

When we look at the finds from the archaeological investigations we obtain some information about what might have happened. A total of 199 crossbow bolts were found scattered over the whole site (Dahlén 1993, 24; 1995, 195), and other crossbow bolts were unearthed by excavations in the 1990s, which means that the total number is now over 200. Concentrations of projectiles were found around the hall building and the gate tower, and also by the outworks.



Fig. 6. Plaque in memory of Bruno Warendorp on his former house in Lübeck, Mengstrasse 4 (Buddenbrockhaus) opposite St. Mary's church (photo: A. Reisnert).

Armour plates, parts of gauntlets, fragments of chain mail accounting for 382 items in the find catalogue (Engberg 1995, 242), and close-range weapons such as swords, daggers, and arrowheads have been found in a homogeneous fire layer in the bailey inside the gate tower. Also inside the hall building, fragments of armoured gloves and armour details were found (Dahlén 1993, 33). Outside the hall, too, on the outer rampart, armour parts have been found (Olsson 1935, 213–219). Here, however, the excavations are not complete; more finds will probably appear in the future.

This material has been presented by Dahlén in distribution maps (Fig. 8a and b), which give us an idea of the final battle at the castle (Dahlén 1993, fig. 26, 32, 33 and

Fig. 7. Plan of the situation around Lindholmen. Reconstruction of the castle plan has been placed over a historical map from 1709 (drawing: C. Ödman).



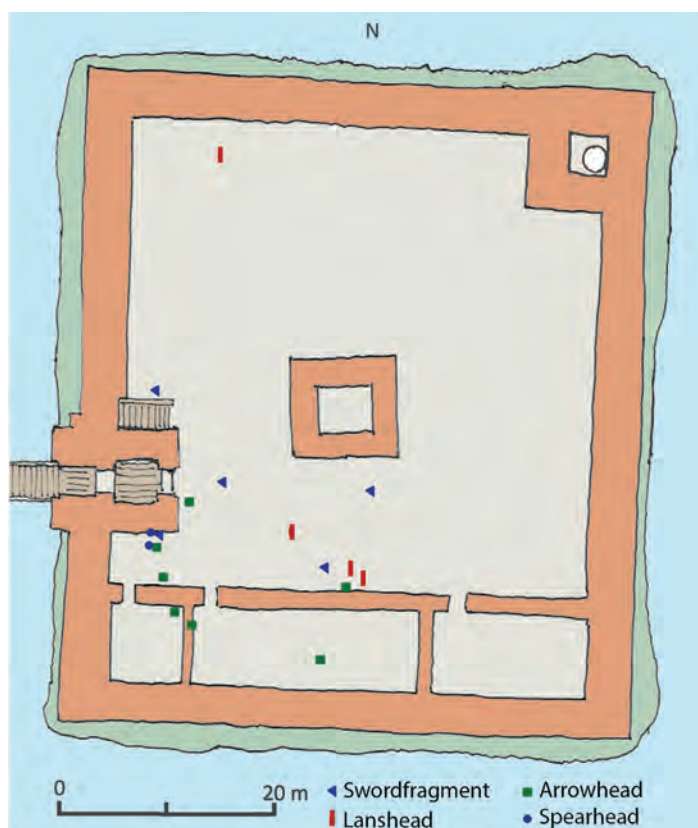


Fig. 8a. Reconstruction of the castle plan, with the distribution of finds of crossbow arrow heads and fragments of armour. Every black dot represents three finds of arrow heads. Every yellow dot represents 1–5 finds of armour. The concentration of finds around the gate tower and the western part of the hall building are obvious, though the castle is not completely excavated (drawing: C. Ödman after Dahlén 1993).

34). According to Dahlén, crossbow bolts, armour parts, and close-range weapons should all have ended up in the fire layer in connection with fighting in 1360 or 1368–69 (Dahlén 1993, 40). I myself, however, believe that the hostilities in 1369 are more likely than the other suggestions, since the sieges of 1360 and 1368 appear to have been protracted events. It is stated that in 1360 the castle was taken with the aid of threats and a large sum of money (Skansjö 1995, 77 and works cited there).

With the aid of the finds, the following hypothetical scenario can be reconstructed, It may be assumed that Bruno Warendorp had prepared the assault with trebuchets and catapults, with the machines that were already in place when he arrived and the ones he brought with him. Storming units would then have moved forward to the foot of the curtain wall and raised 12-metre ladders so that men could quickly perform the shaky climb up the walls. This was actually quite futile, but the idea was to split the defence, not to scale the walls. At the same time, the main attack was directed against the gate. A storm force, perhaps under Bruno Warendorp's personal leadership, broke through the gate and its tower. Once inside the bailey, the assailants encountered tough resistance, as the defenders on the walls, in the donjon, and in the shooting loft poured projectiles and rained arrows on them. The portcullis in the gate tower had been lowered behind them, not only preventing reinforcements from coming

Fig. 8b. The distribution of the finds of weapon gave the same concentration as the finds of armour and arrow heads from crossbows (drawing: C. Ödman after Dahlén 1993).

to the aid of the attackers but also preventing them from retreating. The survivors were forced into the corner between the gate tower and the hall building. Here they broke into the ground floor of the hall and in the ensuing hand-to-hand combat the storm troops and possibly Bruno Warendorp himself were cut down by the defenders. Relatively large parts of armour have been found here, together with arrowheads and some broken close-range weapons (Dahlén 1993, 32ff.). The large quantities of fragments from coats of armour and other protective equipment indicate the intensity of the hand-to-hand fighting, in which people literally chopped each other to pieces.

CONCLUSION

If we can accept the above interpretation of the archaeological source material, Bruno Warendorp's body must have been handed over after negotiations to end the siege, for transport to Lübeck and the family's burial place in Saint Mary's Church (Fig. 9). His helmet was still there in the 18th century, hanging over the grave plaque, engraved in brass (Mantels 1871, 133; Erhardt 2001, 558).

Did the defeat at Lindholmen have any significance for the Hansa and the Cologne Confederation? Not really. Although the definitive victory over Denmark did not come, the most important military goals had been achieved by securing the towns of the Scanian Market and the market places along the coast of the Sound. The capture of Helsingborg also vindicated the Hanseatic military power after the defeat in 1362, and in the immediately following years the military strength of the Hansa was under no threat in Scandinavia. At the Peace of Stralsund in 1371 the victors were able to dictate the terms in the final document.

In the coming fifteen years, the Hansa took control over the market areas by the



Fig. 9. Grave stone over Bruno Warendorp in the church of St. Mary in Lübeck. The text around the figure says: In the year of the lord 1369, on the Tuesday before St. Bartholomew's day (21 august), died in Scania Master Bruno von Warendorp, son of Master Gottschalk, the mayor and our Commander of our town in the war with the King of Denmark, his body is here buried. Pray for him. (Graßmann 2008).

Sound, but having mastery over the important Scanian Market did not bring the economic advantages the members of the Hansa had imagined, because the heavy expenses ate up the profits. The Danish crown still controlled Lindholmen and could thus cause a certain unease behind the backs of the new lords of the Scanian market.

For the Warendorp family (Fig. 10), the loss of Bruno Warendorp was not a serious interruption for the dynasty. The family continued to play a leading role in the political and economic life of Lübeck.

Fig. 10. The family Warendorps coat of arms (Geni 2015).



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Anders Reisnert
Malmö Museer
Malmöhusvägen 7
201 24 Malmö
Sweden
anders.reisnert@malmo.se

PART II: CASTLES DURING WARFARE AND SIEGES

SIEGES, SIEGE CASTLES, AND THE QUESTION OF VISIBILITY
– NEW RESEARCH WITH THE HELP OF LIDAR-SCANS

Olaf Wagener

SIEGES, SIEGE CASTLES, AND THE QUESTION OF VISIBILITY – NEW RESEARCH WITH THE HELP OF LIDAR-SCANS

Olaf Wagener, Germany

ABSTRACT

The siege of Castle Eltz between 1331 and 1337 has been the focus of research concerning siege warfare before. Now however, a new source of information can be added to the discussion: LiDAR-scans. These LiDAR-scans show the terrain as 3D-models without any vegetation. In the case of Castle Eltz, LiDAR-scans in connection with a recently discovered castle site near Eltz and the discovery of stone projectiles from a trebuchet make it possible to reconstruct the progression of the siege. Two other examples, the sieges of Castle Dhaun in the 1340s and Castle Thurant in 1247/48 clearly show the significance of visibility for a siege castle. Visibility and presentation were central aspects in deciding where a castle was built and what its architecture looked like. The owner of the castle wanted to both see the territory and for the castle to be seen by his subjects and his rivals as a symbol of his power. These aspects have sometimes been even more important than the direct military value of a siege castle. The use of LiDAR-scans can help to determine the visibility of a site.

INTRODUCTION

Academic research concerning castles is most often centred on the castle itself. It focuses on the history of the castle, its building phases, the structure of the building itself or the archaeology of the main castle. The geographical context of castles is often ignored. If LiDAR-scans are utilized at all, they are only used to confirm the existence of objects which are otherwise nearly invisible.

In order to understand the castle not only as a building but also as a part of the social reality of its time, it is necessary to put it back into its geographical context. Therefore it is necessary to investigate its surrounding

landscape and to look at settlements, roads, rivers etc. and their position in said landscape in connection with the castle. That leads directly to another aspect the art historian has to address: A castle is a piece of architecture. It is functional, but it is also built to impress people and to demonstrate power. Therefore certain parts of the castle are designed in specific ways. Furthermore, castles are often built and designed in a process of action and reaction. If my neighbour builds a castle on his border, I have got to build one as well. My castle will then be visible from his castle. Consequently, it must be impressive as well!

It is often impossible to understand these aspects in modern landscapes because

*Previous page:
Castle Eltz (photo:
O. Wagener).*

too much has changed: There are woods surrounding the ruins of a castle, so that it cannot be seen properly, the roads that are in use today were built in the late nineteenth and the twentieth centuries while the medieval roads are no longer in use. Most importantly, the castle itself saw many building phases in medieval times, which changed its face. Afterwards, it became a ruin or was even reconstructed in a romantic style during the 19th century.

To understand the way the castle presented itself to the passer-by in medieval times it is necessary to do a lot of reconstruction and to analyse the landscape surrounding the castle.

In the past, it was only possible during winter to recognize at least some structures in the woods. Trying to reconstruct what might have been visible from a tower that no longer exists was only guesswork. Now though, LiDAR-scans make it possible to analyse landscape in a scientific way.

LiDAR-scans are obtained by scanning the terrain from a plane. The time it takes for the light to be reflected and the nature of the reflection allow for the creation of a three-dimensional model of the terrain, without any trees or bushes – and without any buildings. These models can be accurate within decimetres and it is for example possible to recognize old roads or paths which are no longer in use now, but which may have been the historical ways leading to a castle. But furthermore, LiDAR-scans offer yet another opportunity: with GIS-software it is possible to analyse exactly which areas have been visible from a specific point. It is even possible to raise the position of the viewer, as if he were standing on a tower (Dorn and Wagener 2009, 36–40; Höfle and Wagener 2012).

Therefore LiDAR-scans and GIS-software are very important tools in the analysis of castles by archaeologists, historians or art historians as the following examples will show.

THE SIEGE OF CASTLE ELTZ (1331–1337)

The famous Castle Eltz in Rhineland-Palatinate, situated near the Moselle River, was under siege in the years from 1331 until 1337.

During this conflict, the so-called “Eltzer Fehde”, the nobles of the castles Eltz, Waldeck, Schöneck and Ehrenburg, all situated in the area west of Koblenz, opposed the Archbishop of Trier. The exact reason for the conflict is unknown, but it seems to have been an act of defiance of the nobles who tried to withstand Archbishop Balduin of Trier, who strove for expansion of his power on both banks of the Moselle River (Eulenstein 2006; Eulenstein 2007; Eulenstein 2012, 270–300). The fighting probably started in the summer of 1331, and ended when the nobles made their peace with the archbishop on 9 January 1336. Johann of Eltz however did not make his peace with Archbishop Balduin until two years later, on 16 December 1337 (Eulenstein 2006, 84–87).

A siege castle called Trutz-Eltz (Trutz means ‘resistance’) or Balden-Eltz is situated near Castle Eltz. In the pertaining literature it is often stated that Archbishop Balduin erected the siege castle during this conflict and that he positioned a trebuchet there which threw stones on Castle Eltz. Since archaeological or art historical research has never been conducted on Trutz-Eltz, and a written source of 1453 states that the siege castle was ruined (Günther 1824, 495–496), it is taken for granted that the remains of the building today look the same way they did when the castle was erected during the siege. Most authors generally try to explain the way siege castles look like solely based on military aspects (Wagener 2003, 172; Scholz 2004, 240–248). In a paper published in 2012, Achim H. Schmidt, Koblenz, and Olaf Wagener managed to demonstrate that some important aspects of these „facts“ must most likely be revised (Wagener, Schmidt 2012; Wagener, Schmidt 2013).



Fig. 1. Castle Eltz, seen from the Alte Burg (photo: O. Wagener).

All the findings and the former buildings and structures surrounding Castle Eltz were part of this analysis. The written sources were taken into consideration, too, and analysed critically. The authors showed that there is another castle to the west of Castle Eltz, called “Alte Burg” (Old Castle). It became obvious that this castle must also have been in use as a siege castle in the 1330s. The most notable reason for this conclusion was the discovery of stone projectiles that were thrown by a trebuchet. Most of them were found in the western part of Castle Eltz – that is where you would expect to find them if the trebuchet stood in the “Alte Burg” (Fig. 1).

It was also possible to show that the siege castle Trutz-Eltz had been built in three stages which all date back to the time of the siege. Maybe this was built as a position for a trebuchet as well, at least for as long as the main tower had not yet been completed. However, that was obviously not the only purpose of that building.

Finally, the written sources also show that the siege took place in different stages. The *Gesta Trevirorum*, written a short time after the events, says for the year 1331: *Contra quos* [i. e. the nobles of Eltz, Waldeck, Schöneck and Ehrenburg] *dominus Baldwinus exercituali potentia acies direxit, Eltz circumdedit, et Baldeneltz a fundamento constructum, quo ejus potentiam nihilavit, mirabiliter firmavit* (Wyttenbach, Müller 1836–1838, 251). This passage can be interpreted as saying that as a first step Archbishop Balduin surrounded Castle Eltz (*circumdedit*) and that only afterwards he did start building the siege castle Trutz-Eltz.

These theories can now be tested for plausibility with the help of LiDAR-scans. For this purpose, a short description of the terrain and the buildings will be given, so that the reader can easily interpret the scans.

Castle Eltz is situated in the Eifel in the narrow valley of the River Elz [sic!] which winds its way to the Moselle River in the south. The castle was erected on a small rock



spur surrounded by the river on three sides. It is the last part of a ridge which stretches from the northeast to the southwest in the Elz Valley. The surrounding ridges are nearly one hundred metres higher than the castle and are at a distance of approximately 200 m to the castle.

The castle was probably built in the 12th century (Thon, Ulrich 2007, 53) and in those days, before the counterweight trebuchet or firearms were invented, it was rather safe on its rock spur. But after the introduction of the counterweight trebuchet to the German speaking areas at the beginning of the 13th century it was possible to throw stone projectiles weighting more than 50 kg to distances of several hundred meters (Kirchschlager and Stolle 2006). In consequence, the place where Castle Eltz was erected became vulnerable.

At the moment it is impossible to try to reconstruct what Castle Eltz looked like during the time of the siege in the early fourteenth century because there has been

neither archaeological nor art historical research and the castle is still in use after having undergone many construction campaigns since the Middle Ages. The tower „Platt-Eltz“ in the northwest of the castle is definitely older than the siege as are some parts of the outer defences in the north and west. Because of the structure of the rock it is very probable that the castle has always taken up the whole rock spur although its present appearance with big neighbouring towers creates a misleading notion of the castle in the 1330s. There are no signs of damage to be found in the castle that could have been caused by the siege.

The most impressive relic of the siege is the ruin of Trutz-Eltz Castle. It is situated on the same ridge as Castle Eltz but was built at a distance of 200 m to it and about 40 m higher. So the castle, whose terrain comprises about 1300 m², has the classic location of a siege castle (Fig. 2).

It mainly consists of a donjon built of slate, measuring 11 x 11 m² and 11.5 m

Fig. 2. Castle Eltz and on the right the tower of Castle Trutz-Eltz (photo: O. Wagener).

high, and a shield wall, or chemise, which leads from the donjon towards the west. A small yard is situated in the south and in the north an outer ward or zwinger can be found (Urban 1996, 69–71; Wagener 2003, 171–172; Wagener and Schmidt 2012, 219–230).

Trutz-Eltz probably underwent three building phases starting with a simple fortification. Because of substructures in the west, the southern part of the fortifications during the first phase consisted of a plateau big enough to place a trebuchet there (Küntzel 2006, 357–360; Wagener 2006, 362–365). The castle changed its appearance several times, sometimes due to changing plans. During the last building phase the fortification was completely restructured. Maybe the reason for this is that the castle was no longer intended to be a mere siege castle, which normally would be destroyed after the siege (Speight 2000; Wagener 2006). Maybe it was instead built to be a “real” castle in anticipation of a political solution of the conflict. Written sources suggest that the building process stopped after the end of the siege, and art historical research did not reveal any parts of the castle that might have been built later than the 14th century.

Another fortification can be found to the west of Castle Eltz on a rock spur in a loop of the River Elz. This fortification is called “Alte Burg” and was thought to have been built in pre-medieval times. It is situated at a distance of about 200 m from Castle Eltz and on a level with it. A ridge that stretches from the southwest between both castles is low enough so that it is possible to directly see from each castle to the other.

The ridge on which the „Alte Burg“ Castle is situated lies to the southeast and is part of the same ridge Trutz-Eltz Castle is built upon, too. It is an ideal place for a fortification: It is surrounded on three sides by the River Elz and the slopes are very steep. It can only be reached from the northeast, where the saddle of the ridge can be found. The plateau is of nearly triangular shape and encompasses

an area of 0.49 ha. The narrow ridge in the northeast has been changed artificially into two moats. At least the inner moat was built for the castle whereas the outer one might be of later origin.

Directly behind the moat in the northeast lies the highest part of the castle which consists of an artificially levelled rock. The levelling resulted in a triangular plateau of 25 x 10 m. To the west there is a flat step that leads to the rest of the castle’s plateau. The southern edge of the big plateau in the south is made up by a rocky ridge about one metre high. The plateau, slightly descending to the north, is exceptionally flat. The edges in the north and west seem to be the remains of an earlier earthwork. Remains of stone walls are only preserved in two parts of the “Alte Burg”.

The overall impression of the „Alte Burg“ Castle can be summarized as follows: The terrain which according to archaeological evidence was in use as a fortification or fortified settlement in prehistoric times might have been utilized by the besiegers of Castle Eltz because of its favourable position. The way it is built out of small stones and with mortar suggests that the stone wall on the western side dates from the Middle Ages. It is not clear in which phase the big plateau was created but the resulting space would have been large enough for the combatants and equipment necessary in a siege. The terrain was very well protected and the second siege castle, Trutz-Eltz, provided additional protection.

A third, nameless castle has recently been discovered in a place called “Unter dem Österkonn” about 900 m to the east of Castle Eltz, directly above the valley of the River Elz. Although some ceramic which has been found there may date from the time of the siege there is no clear proof that this small fortification, of which no walls have survived, played any role in the siege of the 1330s (Wagener, Schmidt 2013, 116–120).

At this point two questions arise:
Why would Archbishop Balduin build not only one, but two siege castles? Why would he spend time and money on the second one?

Why would the besiegers build a big tower or a small castle of stone (i. e. Trutz-Eltz)? And since erecting stone walls takes a lot of time why did not the besieged stop him?

Maybe it is possible to find an answer to these questions by analysing the LiDAR-scans in direct comparison with the written sources.

Considering the place where Castle Eltz was built, a small rock spur in the middle of a deep valley, it is not surprising that even from a tower thirty meters high placed in the confines of the castle you cannot see much of the surrounding terrain. Even the northern flank of the ridge where the castles Trutz-Eltz and "Alte Burg" are situated is not visible.

Taking a look at what could be seen from the location of the „Alte Burg“ Castle, it has to be taken into account that there are no hints of the existence of a tower and therefore

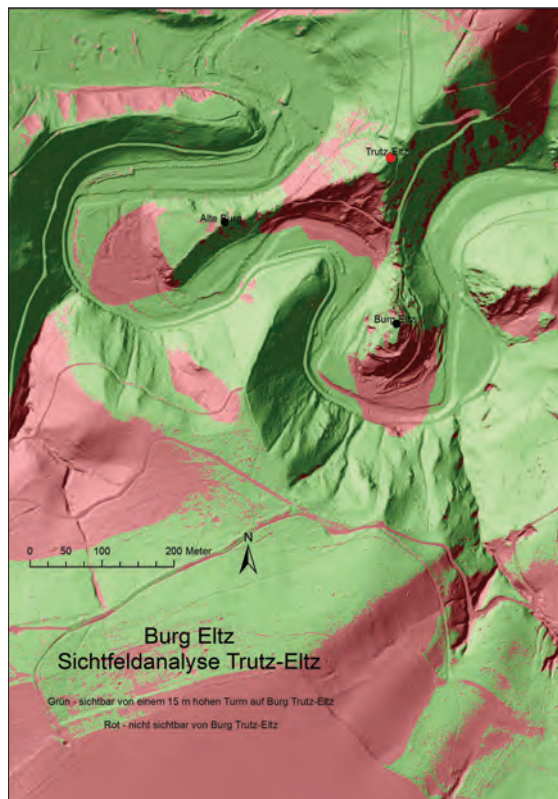
one cannot be reconstructed. Instead, the area which could be seen by a person from about two metres above the ground must be considered. There is not much terrain which can be seen from there, but at least the main entrance of Castle Eltz in the north and the location of Trutz-Eltz are visible.

From the place where Trutz-Eltz was built only a small portion of the surrounding landscape is visible. But at least Castle Eltz and the "Alte Burg" can be seen and the valley of the River Elz is visible both to the west and the east of Castle Eltz. The rising ridge in the northeast of Trutz-Eltz Castle can only partly be seen.

It will be possible to understand the idea behind erecting these two castles once one combining their viewpoint analyses: It is obvious that the written sources are confirmed because building these two castles means that Castle Eltz is surrounded: in this case it is no longer possible to get into the castle without taking the risk of being seen by the besiegers (Fig. 3 and 4).

Fig. 3. Castle Eltz, green are the areas that can be seen from a tower of 15 m height in Castle Trutz-Eltz (LiDAR-scan; Landesamt für Vermessung und Geobasisinformation Rheinland-Pfalz, 16.12.2010, AZ. 0322 28101 / 519336; analysis: O. Wagener).

Fig. 4. Castle Eltz, green are the areas that can be seen from a tower of 15 m height in Castle Trutz-Eltz and / or the Alte Burg (LiDAR-scan; Landesamt für Vermessung und Geobasisinformation Rheinland-Pfalz, 16.12.2010, AZ. 0322 28101 / 519336; analysis: O. Wagener).



That does definitely not mean that Castle Eltz was totally blocked off from the outer world because then it would not have been possible for the defenders to hold out for six years. But it shows that everybody who wanted to enter the castle had to become aware of taking a risk by approaching the castle because while coming closer to the castle he had to see the fortifications of the besiegers and had to know that he could be seen as well.

These facts might be part of the answer to the second question: If the besieged had tried to attack the building site of Trutz-Eltz they would have been caught between the two fortifications of the Archbishop of Trier. They would not have been sure if there was a way back into the castle.

If we now combine these theories with the fact that Trutz-Eltz Castle is an outstanding siege castle because it comprises a whole donjon it becomes clear that the whole affair was magnificently planned by Archbishop Balduin: Without a doubt the tower of Trutz-Eltz was a symbol that showed the besieged that the archbishop had invested (and could

afford to invest) much money in this siege. He would not withdraw before he had achieved his goals. But it is even more important that this symbol did not only function in regards to the people in the besieged castle but also in regards to everybody who wanted to reach the castle. It does not matter if one arrived from the heights in the northeast or through the valley of the River Elz from the north or the west – the first thing one saw was not Castle Eltz itself but the tower of Trutz-Eltz.

THE SIEGE OF CASTLE DHAUN (1340–1342)

Archbishop Balduin led another very costly siege against Castle Dhaun near Bad Kreuznach, Rhineland-Palatinate (Mötsch 1981; Eulenstein 2012, 247–266).

Castle Dhaun is situated on a rock spur high above the valley of the Simmerbach Creek and can also be seen from the important valley of the River Nahe in the south, although it has no direct access to this valley.

Fig. 5. Castle Dhaun, view from Castle Rodenburg to Castle Dhaun, in the middle of the left side the top of the tower of Castle Brunkenstein can be seen between the trees. Geierslei is on the hill in the background on the left, above Castle Dhaun (photo: O. Wagener).



So in or before 1329 the Wildgraf of Castle Dhaun built Castle Rodenburg on a rock spur to the south directly above a settlement he founded in the valley leading to the River Nahe. However, in 1335 Archbishop Balduin forced him to accept his co-ownership of Castle Rodenburg (Schellack, Wagner 1976, 88), and so the Wildgraf built another castle, Brunkenstein, halfway between Rodenburg and Castle Dhaun (Stanzl 2013, 233) (Fig. 5 and 6).

On December 3rd 1337 Archbishop Balduin signed a treaty with his allies against Wildgraf Johann von Dhaun in which they agreed that the archbishop would pay for half of the costs for any building which would be erected in the course of a siege on Castle Dhaun (Günther 1824, 352; Mötsch 1981, 58). At first though, it seemed as if a political solution could be found (Mötsch 1981, 58–60). However in 1340 the conflict broke out again and fighting started. Meanwhile Archbishop Balduin had found even more allies and in July 1340 they signed new treaties *in dem here vor Dune*, i. e. in the army encampment situated in front of Castle Dhaun. They agreed on the following terms: The Archbishop of Trier, the Archbishop of Mainz and the other allies would each pay for one third of the costs of any buildings, and since the two archbishops had each just built one siege castle, St. Johannisberg and Martinstein, their allies would start to build a third one nearer to Castle Dhaun, the so-called Geierslei (Günther 1824, 418; Otto 1932–35, 359–360; Mötsch 1981, 62–63).

A truce, initiated by the emperor, failed and in January 1342, Archbishop Balduin of Trier managed to win Johann von Heinzenberg as an ally whose castle was situated in the north of Castle Dhaun and who controlled the road to the north, so that Dhaun was completely surrounded. In July 1342, Wildgraf Johann agreed to the conditions of the besiegers (Dominicus 1862, 399; Mötsch 1981, 72–73).

Comparing the LiDAR-scans with the historical events it is now possible to draw some conclusions as to what happened:

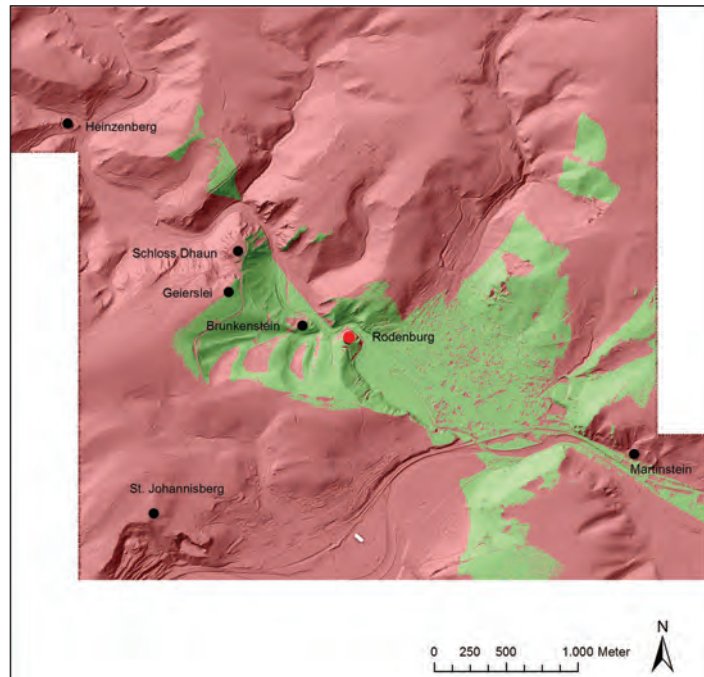


Fig. 6. Castle Dhaun, green are the areas that can be seen from a tower of 15 m height in Castle Rodenburg (LiDAR-scan: Landesamt für Vermessung und Geobasisinformation Rheinland-Pfalz, 16.12.2010, AZ. 0322 28101 / 519336; analysis: O. Wagener).

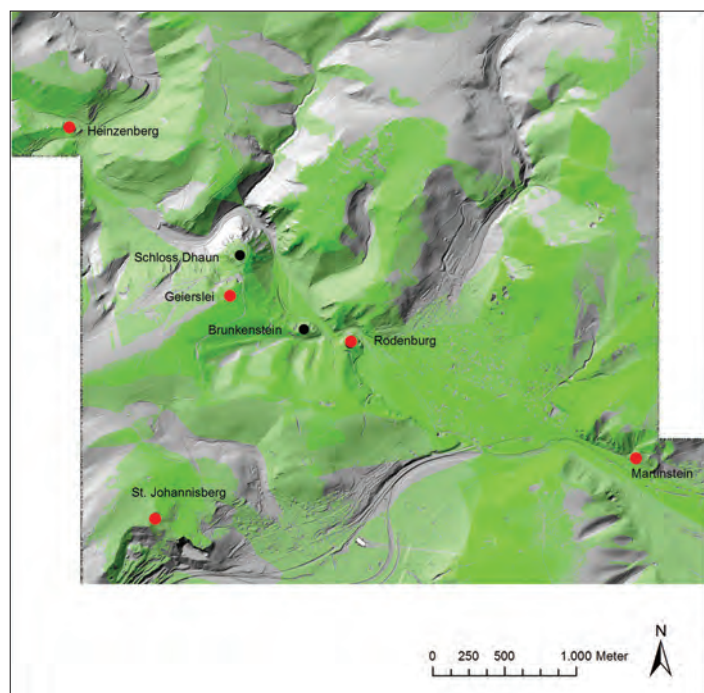


Fig. 7. Castle Dhaun, the end of the siege: Green are the areas which can be seen from one or more castles of the besiegers (LiDAR-scan: Landesamt für Vermessung und Geobasisinformation Rheinland-Pfalz, 16.12.2010, AZ. 0322 28101 / 519336; analysis: O. Wagener).

It is clearly recognizable that the settlement directly beneath Castle Rodenburg can only be seen and controlled from there and not from Castle Dhaun so that the importance of Castle Rodenburg is quite obvious and the reason of the siege of the 1340s becomes even clearer (Fig. 7).

The siege castles built against Castle Dhaun are also very important because they controlled the valley of the River Nahe in both directions. From St. Johannisberg you can furthermore watch nearly all the possible ways from Castle Dhaun into the Nahe Valley. The importance of Castle Heinzenberg becomes also very clear: From the moment the inhabitants of Castle Heinzenberg became allies of the besiegers, Castle Dhaun was really completely surrounded so that it was no longer possible to reach the castle without taking the risk of being seen by the attackers.

THE SIEGES OF CASTLE THURANT (1216/17 AND 1247–1248)

Castle Thurant is situated on a rock spur above the Moselle River near Koblenz, Rhineland-Palatinate. The castle was founded by Pfalzgraf Heinrich around the year 1200 to protect his position on the Moselle River against the archbishops of Trier and Cologne (Waitz 1879, 390).

The Archbishop of Cologne conquered the castle around 1216/17 and built a tower that was placed *ante castrum Tûrun* (Waitz 1880, 272) – which may be translated as “in front of” Castle Thurant. In 1230 the archbishop had to give back Castle Thurant but obviously not the tower he had built (Beyer et al. 1874, 318–320 and 585–586). In 1237/38 troops of the Pfalzgraf won the tower by cunning (Waitz 1880, 272), in 1238 both parties agreed on a truce and in 1243 the Archbishop abandoned his claims (Winkelmann 1880, 525–526; Beyer et al. 1874, 585–586) (Fig. 8).

Fig. 8. Castle Thurant, seen from the Bleidenberg. The Red Tower is on the little hill left of Castle Thurant, “Auf dem Scharren” on the same ridge even more to the left (photo: O. Wagener).



In 1247 however, a new conflict arose and in July 1247 the Archbishop of Trier began a siege of Castle Thurant (Beyer et al. 1874, 674–675; Cardauns 1872, 544; Waitz 1879, 408–409; Andermann 1983). He formed an alliance with the Archbishop of Cologne and they built a siege castle on a neighbouring hill, the Bleidenberg (Beyer et al. 1874, 674–675). It was from there that the besiegers shot at Thurant with a trebuchet (Waitz 1879, 408–409; Jungandreas 1962, 84). After a last attempt of relief had failed (Beyer et al. 1874, 718 f.; Waitz 1879, 409) in September 1248 a political solution was agreed upon. The two archbishops became the owners of Castle Thurant and the tower of the Archbishop of Cologne had to be destroyed (Beyer et al. 1874, 723–724; Cardauns 1872, 544).

Now the question arises if it is possible to identify this tower which played a significant role in the conflict and perhaps in the siege as well. The locations of Castle Thurant and the siege castle on the Bleidenberg are known. Because of archaeological findings it is also known that another castle in a small valley less than 2 km to the southeast of Thurant was built in the 12th century. This castle however, is too old to be the tower. But there are still two places in the vicinity of Thurant which are possible suspects:

About 200 m in front of Castle Thurant, to the south, on the same ridge as the castle and controlling the way to the castle from that direction is the so-called “Red Tower”, a small fortification consisting of the meagre rests of a round tower in the north and

Fig. 9. Castle Thurant, green are the areas from where you can see one of the two towers of the castle with its 25 m height (LiDAR-scan: Landesamt für Vermessung und Geobasisinformation Rheinland-Pfalz, 16.12.2010, AZ. 0322 28101 / 519336; analysis: O. Wagener).

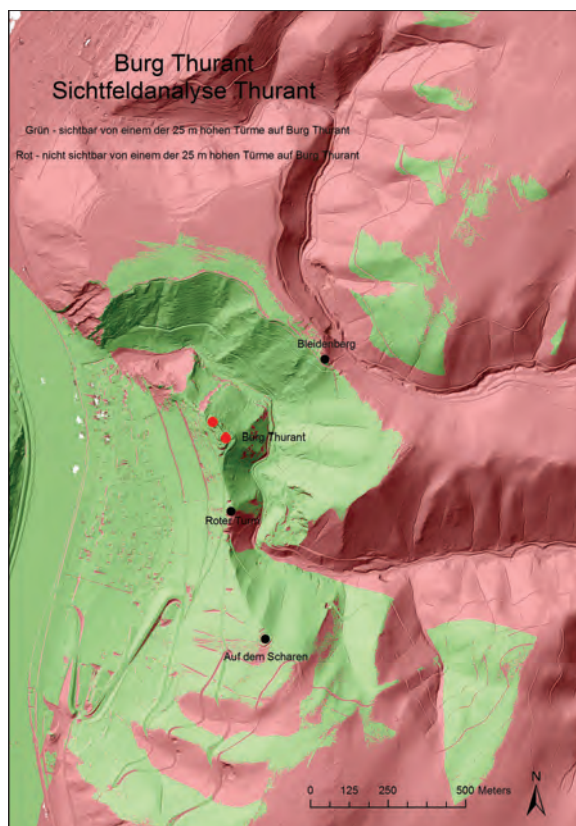


Fig. 10. Castle Thurant, green are the areas from where you can see a tower of 15 m height in the castle “Auf dem Scharren” (LiDAR-scan: Landesamt für Vermessung und Geobasisinformation Rheinland-Pfalz, 16.12.2010, AZ. 0322 28101 / 519336; analysis: O. Wagener).



two ditches in the south. No archaeological finds are known. Although this fortification has been considered to be the tower of the 1220s there are two problems: On the one hand it seems to be directed against an enemy coming from the south with the ditches being there, and on the other hand it seems very unlikely that two hostile parties could co-exist for about ten years in such close proximity.

About 800 m to the southeast of Castle Thurant and also on the same ridge is another fortification called "Auf dem Scharren". Only meagre remains of stone walls, ditches and ramparts are preserved in the woods. Some ceramics have been found there which may date from the time of the siege. Nothing more is known about this fortification.

Considering the LiDAR-scans of the area, two things become clear that cannot be realized in the woods today: "Auf dem Scharren" is much bigger than it seems, much bigger than the Red Tower and even not so much smaller than Castle Thurant itself. But much more important is its view. From this fortification the siege castle on the Bleidenberg and – of course – Castle Thurant, the Red Tower and the Moselle River can be seen. Comparing these viewsheds with those of Castle Thurant it becomes clear that the passer-by on the Moselle River, a very important traffic route, would first see the fortification "Auf dem Scharren" and only then, after he has travelled some hundred meters further, he will get a glimpse of Castle Thurant. Therefore the most dominating castle in this area was in fact "Auf dem Scharren" and not Castle Thurant, at least in terms of visual impact (Fig. 9 and 10).

These considerations which are only possible because of the use of LiDAR-scans can lead to the conclusion that "Auf dem Scharren" may have been the tower of the Archbishop of Cologne – a tower which demonstrated his strength and power to the Pfalzgraf in Castle Thurant and every passer-by. For the historian and castle-researcher it furthermore allows new insights into understanding what happened in the siege

of Castle Thurant in 1247/48 and how siege castles or castle politics may have functioned in a very small area.

CONCLUSION

The three examples of the Castles Eltz, Dhaun and Thurant clearly show which new insights the use of LiDAR-scans allow if combined with the traditional disciplines of castle research such as history, art history and archaeology.

These examples also demonstrate the importance of the visibility of castles: In the case of Castle Eltz the siege castle Trutz-Eltz became a symbol of defeat after the siege, but it also was a symbol of the strength and power of the attacker in the course of the siege, a symbol every passer-by could see. In the case of Castle Dhaun even the very first step of the conflict, the loss of Castle Rodenburg by the Wildgrafen to the Archbishop of Trier, showed the importance of the visual control of settlements by castles. And in the course of the siege Castle Dhaun was literally surrounded by enemy castles, so that no one could get there without the risk of being seen. Castle Thurant and the tower which was built after the first conflict of 1216/17 clearly show how a small siege castle or tower, erected at a place which was not ideal in a strategical or military sense, could have a massive visual impact in and on a small area and could even leave the impression on the passer-by that it might be at least as important as the main castle itself. And so, although the Archbishop had to return Castle Thurant to the Pfalzgraf in 1230, it was still he who dominated the scene above Alken, the last stronghold of the Pfalzgraf on the banks of the Moselle River.

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Olaf Wagener
 Institut für Europäische Kunstgeschichte
 Universität Heidelberg
 Seminarstr. 4
 69117 Heidelberg
 Germany
 olaf.wagener@gmx.de